



Patofiziološki mehanizmi nastanka zapaljenja pluća u uslovima Kovid-19 pandemije i mogućnosti prevencije

Pathophysiological Mechanisms of Pulmonary Inflammation under the Conditions of COVID-19 Pandemics and Possibilities of Prevention

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Apstrakt

Osnovni cilj plenarnog predavanja je da se slušaoci upoznaju sa novim saznanjima iz oblasti imunologije tokom infekcije pluća.

U poslednje vreme postoji mnogo novih rezultata o patogenezi i imunskim poremećajima, kao i o ulozi medijatora, koji se nazivaju citoki i koji se danas koriste u dijagnostici. Nisu svi medijatori isti kod zapaljenja i potrebno je istaći one koji su od značaja za postavljanje dijagnoze bolesti.

Na ovom kursu slušaoci treba da se obaveste o najnovijim saznanjima na polju patogeneze ove bolesti, da usvoje novine u dijagnostici i da razumeju ove probleme.

Danas se upravo na razumevanju mehanizma nastanka bolesti i primenjuju novi lekovi i kreiraju nove smernice u efikasnijoj terapiji infekcija, ali su vakcine osnova pokretanja ćelijskog imuniteta i strogo se preporučuju u prevenciji kovid-19 infekcije.

Abstract

The main goal of the plenary lecture is for the listeners to get acquainted with new knowledge in the field of immunology during lung infection.

Recently, there are many new results about pathogenesis and immune disorders, as well as the role of mediators, which are called cytokines and which are used in diagnostics today. Not all mediators are the same as inflammations, and it is necessary to point out those that are important for diagnosing the disease.

In this course, students should be informed about the latest knowledge in the field of the pathogenesis of this disease and adopt innovations in diagnostics and understand these problems.

Nowadays, the understanding of mechanisms of diseases is used for the application of the drugs and performing new guidelines in more effective therapy of infections, but vaccines are the basis of triggering cellular immunity and they are strongly recommended in the prevention of Covid -19 infection.





Sindrom izgaranja zdravstvenih radnika u službama hemodijalize – mere prevencije i intervencije

Burnout Syndrome of Healthcare Professionals in Hemodialysis Services - Prevention and Intervention Measures

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Apstrakt

Rad u službi hemodijalize nosi brojne rizike za razvoj sindroma izgaranja na poslu. Posao podrazumeva neposredan i prolongiran kontakt sa teško obolelim osobama, etičke dileme, nosi visok stepen odgovornosti, zahteva preciznost i koncentraciju u radu sa sofisticiranim aparatima, prisutan je rad u smenama, monotonost posla, konstantno opterećenje donošenja vitalno značajnih odluka u kratkim vremenskim rokovima i izlaganje riziku sopstvenog zdravlja.

Uprkos poznatim rizicima za sindrom izgaranja na poslu u ovoj populaciji, u literaturi nema mnogo podataka o incidenciji i prevalenciji ovog poremećaja u datom okviru. Iz naše zemlje za sada su objavljeni rezultati samo jednog istraživanja o zastupljenosti sindroma izgaranja među zdravstvenim radnicima u službi hemodijalize. Rezultati ovog istraživanja pomogli su identifikaciji ključnih faktora rizika za pojavu sindroma izgaranja i oblasti na koje bi se moglo preventivno delovati. Sa druge strane, oni se mogu iskoristiti i kao vodič za ublažavanje posledica već prisutnog izgaranja.

Sindrom izgaranja u službama hemodijalize je složena i višeslojna pojava, te stoga nema ni jednostavnog rešenja za ovaj problem. Iako je logično da fokus treba da bude na merama prevencije, često nije jednostavno napraviti oštru razliku između preventivnih mera i napora da se ublaži već postojeći problem. Mere za prevenciju nastanka sindroma izgaranja na radu u službi hemodijalize obuhvataju mere koje treba da sprovedi država, mere koje sprovodi organizacija i one koje bi mogao da sprovodi sam radnik. Mere koje mogu sprovesti odgovarajuće državne institucije uključuju: formulisanje zakonske regulative za slučajeve nekomplijantnih i agresivnih bolesnika, bolje organizovanje savetovališta za profesionalnu orijentaciju i određivanje kadrovskog normativa za službe hemodijalize. Osnov za preduzimanje mera koje sprovodi organizacija je edukacija rukovodilaca u oblasti menadžmenta. Ove mere uključuju: formiranje profesionalne službe za ljudske resurse i skrining rizika za sindrom izgaranja, specifikaciju poslova u okviru radnog mesta, definisanje sistema priznanja i nagrađivanja, kreiranje i negovanje pozitivne poslovne atmosfere, pristup novim zadacima u okviru dužnosti na radu, uspostavljanje hijerarhije i adekvatnog načina rukovođenja. Mere prevencije koje može da sprovede pojedinac uključuju primenu strategija za jačanje ličnosti, tehnike opuštanja ili promenu načina ponašanja. Za njihovo sprovođenje potrebna je podrška psihologa i one mogu dati rezultate samo u kombinaciji sa prethodno navedenim sistemskim merama.

Abstract

Working in the hemodialysis service carries numerous risks for the development of burnout syndrome at work. The job involves direct and prolonged contact with severely ill people, ethical dilemmas, it carries a high degree of responsibility, requires precision and concentration in working with sophisticated devices, there is work in shifts, the monotony of work, the constant burden of making vital decisions in a short time and exposure risk to their own health.

Despite the known risks of burnout syndrome at work in this population, there is not much data in the literature on the incidence and prevalence of this disorder in a given framework. In our country, the results of only one research on the prevalence of burnout syndrome among health workers in the hemodialysis service have been published so far. The results of this study helped to identify key risk factors for the occurrence of burnout syndrome and areas that could be prevented. On the other hand, they can also be used as a guide to mitigating the consequences of already present burnout.

The basis for taking measures implemented by the organization is the education of managers in the field of management. These measures include: establishing professional human resources and risk screening services for burnout syndrome, job specification, defining a system of recognition and remuneration, creating and nurturing a positive business atmosphere, access to new tasks within work duties, and establishing a hierarchy and adequate ways of leading. Prevention measures that can be implemented by an individual include the application of strategies to strengthen the personality, relaxation techniques, or changes in behavior. Their implementation requires the support of psychologists and they can give results only in combination with the previously mentioned systemic measures.

Measures to alleviate the effects of burnout syndrome in the hemodialysis service include measures that can be implemented by the organization and the lower level of management, as well as those that can be implemented by the employees themselves. Managers of organizations and organizational units should ensure the improvement of working conditions, establishing and nurturing appropriate communication, flexible work schedule and responsibilities, encouraging relaxation, team spirit and the adoption of healthy habits, organizing training in stress management, communication and conflict resolution, conditions for continuing education and helping employees better organize their personal time. If none of the mentioned measures gives results, the measure of separation from the environment can be



Mere za ublažavanje posledica sindroma izgaranja na radu u službi hemodijalize obuhvataju mere koje mogu sprovesti organizacija i niži nivo menadžmenta, kao i one koje može da sprovodi sam radnik. Rukovodioci organizacije i organizacionih jedinica treba da obezbede poboljšanje uslova rada, uspostavljanje i negovanje odgovarajuće komunikacije, fleksibilan raspored rada i zaduženja, podsticanje relaksacije, timskog duha i usvajanja zdravih navika, organizovanje treninga u oblasti stres menadžmenta, komunikacije i rešavanja konflikata, uslove za kontinuiranu edukaciju i pomoć zaposlenima za bolje organizovanje ličnog vremena. Ako nijedna od pomenutih mera ne da rezultate, može se primeniti mera izdvajanja iz okruženja. Zaposleni, kao mere intervencije za umanjenje posledica sindroma izgaranja, mogu da primene otvoreniju komunikaciju, aktivno učestvovanje u kontinuiranoj medicinskoj edukaciji, da zatraže osiguranje od profesionalne greške, češće kratke pauze ili, u ozbiljnijim slučajevima, profesionalnu pomoć.

applied. Employees can apply more open communication, active participation in continuing medical education, request insurance against professional error, more frequent short breaks, or, in more serious cases, professional help as measures of intervention to reduce the consequences of burnout syndrome.

Vrste i načini primene kiseonične terapije kod kritično obolelih pacijenata od bolesti Kovid-19

Types and Methods of Application of Oxygen Therapy in Critically Ill Patients COVID-19

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Apstrakt

Svetska zdravstvena organizacija je proglasila pandemiju Kovid-19 2. marta 2020. godine. Krajem 2019. godine u Vuhanu, provinciji Hubei u Kini, kao uzročnik virusne pneumonije identifikovan je novi koronavirus (SARS-CoV-2), a bolest je nazvana kovid-19.

Radi se o respiratornom virusu i najveći broj obolelih će imati lakšu kliničku sliku. Procenjuje se da će između 15 i 20% pacijenata zahtevati hospitalizaciju, od kojih će, prema različitim podacima, 10 – 20% pacijenata zahtevati intenzivno lečenje.

Zbog velikog broja pacijenata, kao i kritično obolelih, kriterijumi za prijem u jedinice intenzivnog lečenja (JIL) su prilagođavani trenutnom stanju i raspoloživim resursima. Ova pandemija je umnogome promenila način oksigene terapije kod kritično obolelih kovid pacijenata. Najčešće primenjivane metode oksigene terapije su:

1. kiseonička maska,
2. nazalni kateter,
3. high flow ventilacija,
4. neinvanzivna ventilacija pomoću maske (full face, total face),
5. invanzivna mehanička ventilacija.

Započinjanje oksigene terapije se uglavnom dešava na kovid odeljenjima i prema protokolima usvojenim u poslednje 2 godine, i to najčešće nazalnim O₂ kateterima, a kasnije prema kliničkoj slici uvode se druge metode. U JIL primenjuju se, uglavnom, invanzivnije procedure: high flow ventilacija, neinvanzivna ventilacija pomoću maske (full face, total face), invanzivna mehanička ventilacija.

Najveći napredak u terapiji sigurno je primena high flow ventilacije. Ona se primenjuje preko posebnih aparata za high flow ili respiratora koji imaju tu mogućnost u svom programu. Kiseonik se doprema do pacijenata preko ovlaživača, kao i grejača, i širokih nosnih kanila. Započinjanje sa high flow ventilacijom zavisi od kliničke slike pacijenata, arterijskih gasnih analiza i drugih vitalnih parametara.

UKC Kragujevac je opremljen velikim brojem respiratora, kao i high flow mašina. U talasu 01. 11. 2020 – 01. 06. 2021. imali smo 653 pacijenta u JIL, od čega su na MV-315 (48%), HF-604 (92,4%), NIV-158 (24%).

Abstract

The World Health Organization declared the COVID-19 pandemic on the 2nd of March, 2020. At the end of 2019 in Wuhan, Hubei Province in China, as a cause of viral pneumonia a new coronavirus (SARS-CoV-2) was identified, and the disease was named COVID-19. It is a respiratory disease, and most patients will have milder clinical manifestations. It is estimated that between 15 and 20% of patients will require hospitalization, of which, according to various data, 10-20% of patients will require intensive treatment.

Due to a large number of patients as well as severely ill patients, the criteria for admission to Intensive Care Units (ICUs) have been adjusted to the current situation and available resources. This pandemic has greatly altered the mode of oxygen therapy in critically ill COVID patients. The most commonly used methods of oxygen therapy are:

1. Oxygen mask
2. Nasal catheter
3. High flow ventilation
4. Non-invasive ventilation with a mask (full face, total face)
5. Invasive mechanical

Initiation of oxygen therapy mainly occurs in COVID-19 wards and according to the protocols adopted in the last 2 years, most often with nasal O₂ catheters, and delays according to the clinical manifestation, other methods are introduced. In JIL, mainly invasive procedures of High flow ventilation, non-invasive ventilation with a mask (full face, total face), and invasive mechanical ventilation are applied.

The greatest progress in therapy is certainly the application of high-flow ventilation. It is applied through special high-flow apparatus or respirators that have this capability in their program. Oxygen is delivered to the patient through humidifiers as well as heaters and wide nasal cannulas. The onset of high flow ventilation depends on the patient's clinical picture, arterial gas analysis, and other vital parameters.

University Clinical Center Kragujevac is equipped with a large number of respirators as well as High flow machines. In the wave from the 1st of November, 2020 to the 1st of June, 2021 we had 653 patients in ICU of which MV-315 (48%), HF-604 (92.4%), NIV-158 (24%).



Poremećaji cirkulacije i dešavanja u oku

Circulation and Eye Disorders

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Apstrakt

Cilj: Svaki cirkulatorni problem može da ima, a uglavnom i ima, reperkusije i na oku, odnosno na očnoj cirkulaciji. S obzirom na to da organ vida ne možemo, a i ne treba sagledavati mimo čitavog tela, cilj rada jeste da pokaže kako se cirkulatorne promene, bilo gde u telu, odražavaju i na oku.

Metoda rada: U ovom radu praćeni su pacijenti koji su se javljali na pregled sa smetnjama u vidu: bljeskova, svetlućanja pred očima, zablještanja, iskrica, munja, sa kratkotrajnim bezbolnim gubitkom vida, kao i sa naglim gubitkom vida. Takođe su analizom bili obuhvaćeni i pacijenti sa dijabetesom, kako na oralnoj, tako i na kombinovanoj terapiji. Nakon prvog koraka u kontaktu sa pacijentom, a to je detaljno uzimanje anamneze, pristupa se oftalmološkom pregledu. Najpre se uzima vidna oštrina, bez korekcije i sa njom, meri se IOP, pregleda se prednji segment na biomikroskopu, a zatim se obavlja pregled očnog dna u midrijazi, indirektnom oftalmoskopijom. Pregled očnog dna nam mnogo govori o stanju krvnih sudova, ne samo na očnom dnu, već i u celom telu. Ovakva vrsta pregleda predstavlja neinvazivno sagledavanje krvnih sudova, a slika koju vidimo odgovara stanju krvnih sudova organizma.

Rezultati: Ono što se može videti su jako uski krvni sudovi, naročito arterije, što nam govori o ishemijskim, hipertoničnim i aterosklerotičnim promenama, zatim o bledom očnom živcu, oslabljenom ili ugašenom refleksu u makuli, kod dijabetičara, krvarenju različitog intenziteta sa promenama u makuli, infarktu oka.

Zaključak: Nakon pregleda očnog dna dobijamo važne informacije o stanju cirkulacije, na osnovu čega možemo ordinirati terapiju, prevenirati određena stanja i bolesti i uključiti u daljem sagledavanju pacijenta i ostale specijalnosti, kao što su: kardiolozi, endokrinolozi, neurolozi, hematolozi, neurohirurzi, ukoliko je nalaz takav da ukazuje na porast intrakranijalnog pritiska.

Abstract

Aims: Every circulatory problem can have, and mostly has, consequences on the eye, i.e. on the ocular circulation. Since the organ of sight cannot, and should not, be seen outside the entire body, the aim of this paper is to show how circulatory changes anywhere in the body are reflected in the eye.

Method: In this study, patients who appeared for examination with visual disturbances: flashes in front of the eyes, glare, sparks with short-term painless vision loss, as well as sudden vision loss were monitored. The analysis also included patients with diabetes, both on oral and combination therapy. After the first step in contact with the patient, which is taking a detailed anamnesis, an ophthalmological examination is performed. First, visual acuity range is taken, without and with correction, the IOP is measured, the anterior segment is examined on a biomicroscope, and then the examination of the eye ground in mydriasis is performed, by indirect ophthalmoscopy. Examination of the eye ground tells us a lot about the condition of blood vessels, not only in the eye ground but also in the whole body. This type of examination is a non-invasive examination of blood vessels, and the image we see corresponds to the condition of the body's blood vessels.

Results: What can be seen are very narrow blood vessels, especially arteries, which tell us about ischemic, hypertonic, and atherosclerotic changes, then pale optic nerve, weakened or extinguished reflex in the macula, in diabetics, bleeding of varying intensity with changes in the macula, eye stroke.

Conclusion: After examining the fundus, we get important information about the state of circulation, based on which we can prescribe therapy, prevent certain conditions and diseases, and include in further examination of the patient and other specialties, such as cardiologists, endocrinologists, neurologists, hematologists, neurosurgeons, it is a finding such as to indicate an increase in intracranial pressure.



Профилактика на детското зрение

Prevention of Children's Sight

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Апстракт

Профилактиката на детското зрение е основен приоритет в европейски и международен мащаб и основна част от първичното здравеопазване в Р. България. Зрението е едно от най-важното от петте сетива и има изключителна роля още от ранна детска възраст. В България няма функционираща система за профилактични очни прегледи на деца в предучилищна и училищна възраст и поради това се осъществяват спорадични скринингови прегледи. Очният скрининг позволява да се идентифицират навреме деца с потенциални зрителни проблеми и те да бъдат навременно насочени за преглед при офталмолог. Много често успешно прикритите зрителни дефицити в предучилищна (5-10%) и училищна възраст (25%) биват тълкувани погрешно, като недостиг на внимание, свръхактивност, неспособност за учене и др. Ранното откриване на отклонения в детското зрение е много важно. Редица заболявания на очите могат да бъдат коригирани, ако се открият навреме едно от тях е амблиопията. В световен мащаб от амблиопия страдат от 1.6 до 5% от населението в различните страни, като от 3% до 5% са деца в предучилищна възраст. Поради тази причина много от държавите в Европа и Съединените Американски Щати съществуват добре разработени програми за скрининг. Според Американската оптометрична академия първият преглед на деца трябва да е на 6 месечна възраст, след това на 3 години и преди да постъпи детето в училище. При учениците препоръките са за преглед на всеки 2 години. Проблемите със зрението при децата са и ще стават все по-актуални предвид сериозното навлизане на новите технологии във всекидневните занимания, свързани с учене и свободно време.

Abstract

Prevention of children's vision is a top priority at the European and international level and a large part of primary health care in the Republic of Bulgaria. Sight is one of the most important of the five senses and plays an exceptional role from early childhood. In Bulgaria, there is no functional system for preventive eye examinations of children of preschool and school-age, and therefore sporadic screening examinations are carried out. Eye screening makes it possible to identify children with potential vision problems in time and to refer them to an ophthalmologist in time. Successfully concealed visual deficits in preschool (5-10%) and school-age (25%) are often misinterpreted, such as lack of attention, hyperactivity, inability to learn, etc. Early detection of visual abnormalities in children is very important. A number of eye diseases can be corrected if detected in time, one of which is amblyopia (lazy eye). All over the world, amblyopia affects 1.6 to 5% of the population in different countries, with 3% to 5% of preschool children. For this reason, many countries in Europe and the United States have well-developed screening programs. According to the American Academy of Optometry, the first examination of children should be at 6 months, then at 3 years, and before the child starts school. For students, recommendations are for review every 2 years. Children's vision problems are and will become more and more relevant given the adjustment of new technologies into everyday activities related to learning and free time.





Bihevioralne adikcije (nehemijske zavisnosti) Behavioral Addictions (Non-chemical Addictions)

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Apstrakt

Bihevioralne (ponašajne, nehemijske) zavisnosti su zavisnosti koje ne uključuju unošenje supstance u organizam, kao što je to slučaj kod klasičnih zavisnosti od psihoaktivnih supstanci (alkoholizam, narkomanija, pušenje). Radi se o prisilnim (kompulzivnim) aktivnostima kao što su: zavisnost od video-igara, televizije, socijalnih mreža, zavisnost od ljubavnog partnera, zavisnost od rada, zavisnost od interneta, zavisnost od seksa i pornografije, zavisnost od mobilnih telefona, selfija, kupovine, zavisnost od kocke, vežbanja, ekstremnih sportova. Prva i jedina bihevioralna zavisnost koja je ušla u međunarodne klasifikacije bolesti DSM i ICD (1980. godine) je patološko kockanje, ali kao poremećaj kontrole impulsa pored piromanije, trihotilomanije (čupanje kose) i kleptomanije. Za razliku od hemijskih adikcija gde je gubitak kontrole glavna karakteristika, kod nehemijskih zavisnosti osnovna karakteristika je nemogućnost da se odoli impulsu da se upražnjava određena aktivnost!

Osnovne karakteristike su intenzivna žudnja, kompulzivna aktivnost, gubitak kontrole, porast tolerancije, apstinencijalne tegobe, nastavak aktivnosti uprkos znanju o štetnim posledicama. Oko polovine svetske populacije pati od bar jedne bihevioralne zavisnosti.

Faktori rizika za nastanak bihevioralnih zavisnosti su nikotinizam i alkoholizam roditelja, razvod roditelja, duševna oboljenja u porodici, prostitucija, kriminalno ponašanje u porodici, depresija, pokušaji samoubistva u porodici, prisustvo hemijskih zavisnosti povećavaju šansu za razvoj nehemijskih zavisnosti, preterana strogost ili popustljivost roditelja, sukobi sa roditeljima, zlostavljanje od strane roditelja, sklonost čestim svađama i tučama u ranoj mladosti, nedostatak interesovanja za školu, ozbiljne smetnje u učenju, loš uspeh u školi, preterana stidljivost i povučenosť (introverzija), sukobi sa zakonom.

Često mešamo navike i zavisnosti. Mada i navike često mogu da budu štetne, ipak ih možete svojevolejno prekinuti, jer imate kontrolu nad njima. One su tu kao posledica vašeg izbora i traju do kada vi odlučite da traju. Zavisnost je uvek negativna i mnogo opasnija od navika. Nad njom nemate kontrolu, nego ona nad vama. Ne birate da li ćete je zadovoljiti, jer „morate” to da činite, bez obzira na to što ste svesni da vas ona polako vuče u ponor.

U toku predavanja detaljno će se opisati svaka od bihevioralnih zavisnosti posebno, počev od dijagnoze, kliničke slike, do terapije.

Abstract

Behavioral (behavioral, non-chemical) addictions are addictions that do not involve taking a substance into the body, as is the case with classic addictions to psychoactive substances (alcoholism, drug addiction, smoking). These are forced (compulsive) activities: addiction to video games, television, social networks, addiction to a love partner, addiction to work, addiction to the Internet, addiction to sexual intercourse and pornography, mobile phones, selfies, shopping, addiction to gambling, exercise, extreme sports. The first and only behavioral addiction that entered the international classifications of diseases DSM and ICD (in 1980) is pathological gambling, but as an impulse control disorder in addition to pyromania, trichotillomania (hair-pulling), and kleptomania. Unlike chemical addictions where the loss of control is the main characteristic, in non-chemical addictions, the main feature is the inability to resist the impulse to exercise a certain activity.

The basic characteristics are intense craving, compulsive activity, loss of control, increase in tolerance, withdrawal symptoms, and continuation of activity despite knowledge of harmful consequences. About half of the world's population suffers from at least one behavioral addiction.

Risk factors for the emergence of behavioral addictions are parental nicotine and alcoholism, parental divorce, mental illness in the family, prostitution, criminal behavior in the family, depression, suicide attempts in the family, and the presence of chemical addictions increase the chance of developing non-chemical addictions, excessive strictness or permissiveness of parents, conflicts with parents, abuse by parents, tendency to frequent arguments and fights at an early age, lack of interest in school, serious learning disabilities, poor performance at school, excessive shyness and withdrawal (introversion), conflicts with the law.

We often confuse habits and addictions. Although habits can often be harmful, you can still voluntarily break them, because you have control over them. They are there as a result of your choice and last as long as you choose them to last. Addiction is always negative and much more dangerous than habits. You don't have control over it, but it has control over you. You don't choose whether to please it, because you “must” do it regardless of the fact that you are aware that it is slowly dragging you down.

During the lecture, each of the behavioral addictions will be described in detail, starting with diagnosis, clinical picture, and therapy.



Analiza manifestacija postkovid sindroma kod pacijenata lečenih u Specijalnoj bolnici za nespecifične plućne bolesti Sokobanja

Analysis of the Manifestations of the “Post-Covid” Syndrome in Patients Treated in the Special Hospital for Non-specific Lung Diseases “Sokobanja”

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Special Hospital “Sokobanja”

Apstrakt

Uvod: Simptomi i znaci nakon preležane akutne faze bolesti kovid-19 su, u ne malom broju slučajeva, opterećujući i zabrinjavajući, kako za pacijenta, tako i za pulmologa. Ne postoji jasna korelacija između težine kliničke slike akutne bolesti i postkovid sindroma ili hroničnog koviida-19. Šarolikost postkovid manifestacija je rezultat sistemske afekcije virusa SARS-CoV-2 na ceo organizam, sa posebnim akcentom na endotelnu disfunkciju. Narušavanje strukture i funkcije vitalnih organa i tkiva, i moguće komplikacije, u smislu tromboembolijskih događaja, oštećenja miokarda i bubrežne slabosti, ukazuju na kompleksnost postkovid sindroma, stanja koje zahteva sveobuhvatnu pažnju.

Cilj: Ciljevi ovog rada su analiza karakteristika postkovid simptoma i znakova u odnosu na preležanu akutnu fazu koviida-19 i ispitivanje uticaja postojećih komorbiditeta i komplikacija na ispoljavanje postkovid sindroma.

Materijal i metoda: U ovoj retrospektivnoj studiji analizirana je grupa od 385 preživelih pacijenata koji su bolovali od teškog i srednje teškog oblika koviida-19, a koji su se zbog postkovid manifestacija javili na pregled u Pulmološku ambulantu Specijalne bolnice za nespecifične plućne bolesti Sokobanja. Ispitivanje je sprovedeno u periodu od 01. avgusta do 01. decembra 2021. godine.

Rezultati: Velika većina od ukupnog broja ispitanika, njih 95%, imali su različit stepen zamorljivosti, dok je osećaj dispneje i nedostatka daha imalo 32% ispitanika. Različite neuropsihičke manifestacije je osećalo čak 98% pacijenata. Nasuprot tome, samo 9% ispitanika je imalo značajno smanjen difuzioni kapacitet, kao rezultat postojanja plućne fibroze.

Zaključak: Stepen težine akutne faze koviida-19, kao i prisustvo postojećih komorbiditeta i nastalih komplikacija su u korelaciji sa stepenom ispoljavanja brojnijih i težih postkovid simptoma i znakova.

Abstract

Introduction: Symptoms and signs after the acute phase of COVID-19 are in many cases burdensome and worrying for both the patient and the pulmonologist. There is no clear correlation between the severity of the clinical picture of the acute disease and “post-COVID” syndrome or chronic COVID-19. The variety of “post-COVID” manifestations is the result of the systemic affection of the SARS-CoV-2 virus on the whole organism, with a special emphasis on endothelial dysfunction. Violation of the structure and function of vital organs and tissues, and possible complications in terms of thromboembolic events, myocardial damage, and renal weakness indicate the complexity of the “post-COVID” syndrome, a condition that requires comprehensive attention.

Aims: The aims of this work are the analysis of the characteristics of “post-COVID” symptoms and signs in relation to the acute phase of COVID-19 and the examination of the influence of existing comorbidities and complications on the manifestation of the “post-COVID” syndrome.

Materials and methods: In this retrospective study, a group of 385 surviving patients who suffered from severe and moderate forms of COVID-19, and who, due to “post-COVID” manifestations, came for examination in the pulmonology clinic of the Special Hospital for Non-Specific Lung Diseases was analyzed. The examination was conducted in the period from the 1st of August to the 1st of September, 2021.

Results: The vast majority of the total respondents, 95% of them, had varying degrees of fatigue, while feeling of dyspnea and shortness of breath was felt by 32% of the respondents. As many as 98% of patients felt different neuropsychic manifestations. In contrast, only 9% of subjects had a significantly reduced diffusion capacity as a result of having pulmonary fibrosis.

Conclusion: The degree of severity of the acute phase of COVID-19, as well as the presence of existing comorbidities and complications, are correlated with the degree of manifestation of more numerous and severe “post-COVID” symptoms and signs.



Histološka obrada tkiva i primena u onkološkoj histopatologiji

Histological Processing of Tissues and Application in Oncology Histopathology

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Apstrakt

Uvod: Patohistološka dijagnostika zavisi od mnogih postupaka i tehnika pripreme i bojenja tkiva. Histološka obrada tkiva važan je alat u anatomskoj patologiji i koristi se za preciznu dijagnozu kancera i drugih oboljenja.

Cilj: U radu patološke laboratorije sve procedure i postupci moraju se podrediti i prilagoditi jednom cilju, a to je dobijanje kvalitetnog, pouzdanog i reproducibilnog bojenja tkiva koje omogućuje lakšu i precizniju histopatološku analizu.

Metod: Manuelna obrada tkiva je početna faza histopatološke analize i izvodi je patolog. Histološki laborant je zadužen za sve ostale postupke u obradi i bojenju tkiva, koje će kasnije patolog uzeti u razmatranje i dijagnostiku obolelog biološkog tkiva. Napretkom tehnologija i praćenjem novina došlo se do preciznije dijagnostike i primene imunohistochemijskih bojenja.

Rezultati: Tehnike i metode koje se primenjuju pružaju važne informacije za patološke dijagnoze, za utvrđivanje porekla tumora, prognozu bolesti i odgovora na terapiju.

Zaključak: Ljudski faktor je nezamenljiv, kako u pripremi tkiva, tako i u patološkoj dijagnostici. Međusobna saradnja osoblja histološke laboratorije i stalni napredak znanja i veština omogućavaju pacijentu da u optimalnom vremenu dobije precizan i tačan nalaz.

Abstract

Introduction: Pathohistological diagnosis depends on many procedures and techniques of tissue preparation and staining. Histological processing of tissue is an important tool in anatomical pathology and is used for the accurate diagnosis of cancer and other diseases.

Aims: In the work of the pathology laboratory, all the actions and procedures must be subordinated and adapted to one aim, which is to obtain high-quality, reliable, and reproducible tissue staining that enables easier and more precise histopathological analysis.

Method: Manual tissue processing is the initial stage of histopathological analysis and is performed by a pathologist. The histological laboratory technician is in charge of all other procedures in the processing and staining of tissue, which the pathologist will later consider and diagnose the diseased biological tissue. Advances in technology and following the news have led to more accurate diagnostics and the application of immunohistochemical staining.

Results: Applied techniques and methods provide important information for pathological diagnoses, for determination of tumor origin, disease prognosis, and response to therapy.

Conclusion: The human factor is irreplaceable, both in tissue preparation and in pathological diagnosis. The mutual cooperation of the staff members in the histology laboratory and the constant improvement of knowledge and skills enable the patient to receive precise and accurate findings at the optimal time.



Rehabilitacija kardioloških pacijenata

Rehabilitation of Cardiology Patients

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Apstrakt

Kardiovaskularne bolesti (KVB) su jedan od vodećih uzroka smrti širom sveta. Prema procenama Svetske zdravstvene organizacije (SZO) u 2019. godini je od KVB umrlo 17,9 miliona ljudi u svetu, a to je 32% svih smrtnih slučajeva u svetu. Od ovih smrtnih slučajeva, 85% je bilo zbog srčanog i moždanog udara. Preko tri četvrtine smrtnih slučajeva od KVB dešava se u zemljama sa niskim i srednjim prihodima.

SZO definiše rehabilitaciju kardioloških bolesnika kao skup mera i postupaka sa ciljem postizanja što boljeg mogućeg fizičkog, psihičkog i socijalnog stanja, u cilju toga da kardiološki bolesnici, nakon akutne epizode kardiovaskularne bolesti, svojim sopstvenim snagama ponovo zauzmu mesto u zajednici i nastave sa svojim dotadašnjim životom. Rehabilitacija kardiovaskularnih pacijenata se može sprovoditi stacionarno, ambulantno ili kombinovano. Sam način sprovođenja rehabilitacije se razlikuje u različitim državama. Generalno se program rehabilitacije može podeliti na tri faze:

- prva ili rana faza rehabilitacije započinje intrahospitalno, neposredno nakon kardiovaskularnog događaja,
- druga faza započinje nakon što je pacijentovo stanje stabilno, odnosno po otpustu iz bolnice,
- treća faza predstavlja dugotrajno održavanje efekta rehabilitacije kroz primenu kontinuiranog programa vežbanja i određenog načina života.

Cilj rada je ukazati na značaj, karakteristike, mogućnosti primene, kao i potencijalne nedostatke rehabilitacije kardioloških pacijenata.

Značaj rada ogleda se u upoznavanju sa karakteristikama i značajem rehabilitacije kardioloških pacijenata. Prikupljeni, analizirani i prikazani podaci pružiće korisne i potrebne informacije lekarima u rehabilitaciji kardioloških pacijenata. Takođe, rad predstavlja dobru osnovu za neka buduća istraživanja koja će dalje proučavati značaj i primenu rehabilitacije kod kardioloških pacijenata, kako bi se ista što više poboljšala i kako bi lekar bio u mogućnosti da odgovori na sve potrebe rehabilitacije kardioloških pacijenata.

Abstract

Cardiovascular diseases (CVD) are one of the leading causes of death worldwide. According to estimates by the World Health Organization (WHO), 17.9 million people worldwide died from CVD in 2019, i.e. 32% of all deaths in the world. Of these deaths, 85% were due to heart attacks and strokes. Over three-quarters of CVD deaths occur in low- and middle-income countries.

The WHO defines the rehabilitation of cardiac patients as a set of measures and procedures with the aim of achieving the best possible physical, psychological and social condition, so that cardiac patients, after an acute episode of cardiovascular disease, largely by their own efforts, preserve or regain their place in the community and continue with their previous life. Rehabilitation of cardiovascular patients can be carried out on an inpatient, outpatient, or combined basis. The way rehabilitation is carried out differs in different countries. In general, the rehabilitation program can be divided into three phases:

- the first or early phase of rehabilitation begins in-hospital, immediately after a cardiovascular event,
- the second phase begins after the patient's condition is stable, i.e. after discharge from the hospital,
- the third phase represents the long-term maintenance of the rehabilitation effect through the application of a continuous exercise program and a certain way of life.

The aim of the paper is to point out the importance, characteristics, possibilities of application, as well as potential deficiency of the rehabilitation of cardiac patients.

The importance of the work is reflected in familiarization with the characteristics and importance of rehabilitation of cardiac patients. The collected analyzed and presented data will provide useful and necessary information to doctors in the rehabilitation of cardiac patients. Also, the work represents a good basic basis for some future research that will further study the importance and application of rehabilitation in cardiac patients, in order to improve it as much as possible and so that the doctor would be able to respond to all the rehabilitation needs of cardiac patients.

Dijetoterapija kod neurodegenerativnih bolesti

Diet Therapy in Neurodegenerate Diseases

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Apstrakt

Neurodegenerativne bolesti svrstavaju se među najčešća oboljenja koja imaju posledice na funkcionisanje čitavog organizma. Budući da su neizlečive, naponi za unapređenje zdravlja primenom dijetoterapije primetni su u svim zemljama. U radu su prikazani nutritivni aspekti najčešćih neuroloških oboljenja (moždani udar, Alchajmerova bolest, migrena, autizam, epilepsija, autoimuna oštećenja nervnog sistema).

U dijetoterapiji neuroloških oboljenja, osim adekvatne ishrane bogate voćem i povrćem, ističe se povećana upotreba B i D vitamina, omega 3 i omega 6 masnih kiselina radi smanjenja upale i normalizacije nervnog funkcionisanja. U ishrani treba izbegavati proste ugljene hidrate, prerađenu hranu, prehrambene aditive i alkohol. Ketogena dijeta, s malo ugljenih hidrata i povećanim unosom masti, dokazano pozitivno utiče na moždanu funkciju kod epilepsije, multiple skleroze, Alchajmerovog oboljenja i migrene. Pojedine namirnice mogu biti inicijatori napada migrene i epi-napada.

U dijetoterapiji nakon CVI (celebralnog insulta) obroke treba prilagoditi mogućnostima pacijenata i po potrebi obezbediti adekvatnu tečno-kašastu ishranu, budući da se 50% pacijenata suočava s prisustvom disfagije, tj. problemom sa žvakanjem i gutanjem hrane. Preporučuje se primena DASH dijete za lečenje hipertenzije, bogate voćem, povrćem i vlaknima, uz povećan unos kalijuma (> 4.700 mg/dan) i smanjen unos natrijuma.

Zaključak: Neurološka oboljenja predstavljaju značajan teret za sistem zdravstvene i socijalne zaštite, budući da utiču na funkcionisanje celog organizma, na aktivnosti dnevnog života i rada obolelih. Adekvatnom i kvalitetnom ishranom možemo eliminisati faktore rizika, povoljno uticati na simptome ili odložiti napredak najčešćih neuroloških oboljenja.

Abstract

Neurodegenerative diseases are among the most common diseases that affect the functioning of the entire organism. Since they are incurable, efforts to improve health through dietary therapy are noticeable in all countries. The paper presents the nutritional aspects of the most common neurological diseases (stroke, Alzheimer's disease, migraine, autism, epilepsy, autoimmune damage to the nervous system).

In the diet therapy of neurological diseases, in addition to an adequate diet rich in fruits and vegetables, the increased use of vitamins B and D, omega 3, and omega 6 fatty acids are emphasized in order to reduce inflammation and normalize nerve functioning. Simple carbohydrates, processed foods, food additives, and alcohol should be avoided in the diet. A ketogenic diet, with low carbohydrates and increased fat intake, has been proven to have a positive effect on brain function in epilepsy, multiple sclerosis, Alzheimer's disease, and migraines. Certain foods can be the initiators of migraine attacks and epi-attacks.

In diet therapy after CVI (cerebral insult), meals should be adapted to the patient's capabilities and, if necessary, adequate liquid-mushy nutrition should be provided, since 50% of patients face the presence of dysphagia, i.e. problems with chewing and swallowing food. It is recommended to use the DASH diet - a diet for the treatment of hypertension, rich in fruits, vegetables, and fiber, with an increased intake of potassium (> 4,700 mg/day) and a reduced intake of sodium.

Conclusion: Neurological diseases represent a significant burden for the health and social care system since they affect the functioning of the whole organism, the activities of daily life, and the work of the sufferers. With adequate and high-quality nutrition, we can eliminate risk factors, have a favorable effect on symptoms, or delay the progress of the most common neurological diseases.



Rad medicinske sestre na terenu u vreme pandemije

The Work of Visiting-nurse Service during the Pandemic

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Apstrakt

Cilj: Sprečavanje širenja infekcije izazvane koronavirusom prilikom posete i sprovođenja sestriinske intervencije.

Specifični ciljevi: Unaprediti znanje i veštine zdravstvenih radnika. Obezbediti dostupnost preventivnih oblika edukacije stanovništva u borbi protiv koronavirusa prilikom kućne posete. Obezbediti da se preventivne mere uvedu u redovnu praksu, kao sastavni deo usluga zdravstvene zaštite, uz poseban osvrt na rizičnu populaciju. Unaprediti saradnju u okviru lokalne samouprave radi razmena informacija i uzajamne podrške u borbi protiv koronavirusa.

Postupak: U toku rada medicinska sestra tehničar ne sme da namešta i pomera masku, dodiruje oči, nos i usta rukavicama. Rukavice se ne dezinfikuju, nego se menjaju nakon korišćenja. Svaka nova poseta zahteva menjanje lične zaštitne opreme, kao mere suzbijanja i prevencije koronavirusa. Obavezno je i nošenje dezinfekcionog sredstva (jedno je u patronažnoj torbi, a drugo u kolima). Kada završi posetu, medicinska sestra odlaže sve u žutu kesu za infektivni otpad koja je u autu (jednu nosi sa sobom zbog ubacivanja otpada od previjanja pupka) i počinje da se presvlači. Osim vizira koji se dezinfikuju, sve ostalo se odlaže u žutu kesu. Rukavice se skidaju zadnje, a ruke dezinfikuju.

Zaključak: Zaposleni moraju biti bez simptoma koji ukazuju na infekciju virusom kovid-19. U slučaju pojave bilo kog simptoma u vezi sa infekcijom virusa kovid-19, javlja se nadležnom lekaru u kovid ambulatu, radi eventualnog dijagnostifikovanja i lečenja.

Abstract

Aims: Preventing the spread of the infection caused by the coronavirus during the visit and the conducting of the nursing intervention.

Specific aims: To improve the knowledge and skills of healthcare workers. Ensure the availability of preventive forms of education for the population in the fight against the coronavirus during home visits. Ensure that preventive measures are introduced into regular practice as an integral part of health care services, with a special focus on the population at risk. Improving cooperation within local self-government for the purpose of information exchange and mutual support in the fight against the coronavirus.

Procedure: During work, the nurse technician must not adjust and move the mask, or touch the eyes, nose, and mouth with gloves. Gloves are not disinfected but changed after use. Each new visit requires a change of personal protective equipment, as a measure to combat and prevent the coronavirus. It is also mandatory to carry a disinfectant (one is in the nurse bag and the other in the car). When she finishes the visit, the nurse puts everything in the yellow bag for infectious waste that is in the car (she carries one with her for inserting the waste from the umbilical cord care) and starts changing. Except for the visor, which is disinfected, everything else is placed in a yellow bag. Gloves are removed at the end, and hands are disinfected.

Conclusion: Employees must be free of symptoms that indicate infection with the COVID-19 virus. In the event of the appearance of any symptom related to the infection of the COVID-19 virus, contact the competent doctor at the COVID clinic for possible diagnosis and treatment.





Porodaj trudnica obolelih od infektivnih bolesti

Childbirth of Pregnant Women Having Infectious Diseases

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Apstrakt

Porodaj je okončanje trudnoće, pri čemu jedna ili više beba napušta majčinu matericu putem vaginalnog prolaza ili carskog reza. Prema definiciji SZO (Svetske zdravstvene organizacije) normalna trudnoća traje od 37 do 42 nedelje. Porodaj koji nastupi pre 37. sedmice zove se prevremeni porodaj, a onaj koji nastupi nakon 42. nedelje graviditeta je prolongirana trudnoća, odnosno prenesena. Oko 15 miliona dece je rođeno pre 37 nedelja gestacije, dok je između 3 i 12% rođeno nakon 42 nedelje. U razvijenom svetu većina porođaja se odvija u bolnicama, dok se u zemljama u razvoju većina porođaja događa u domovima, uz pomoć tradicionalne babice.

Svake godine komplikacije od trudnoće i porođaja dovedu do oko 500.000 smrtnih slučajeva majki, 7 miliona žena ima ozbiljne dugoročne probleme i 50 miliona žena ima negativne zdravstvene ishode nakon porođaja. Ishod porođaja umnogome zavisi od zdravstvenog stanja trudnice, koji se dodatno komplikuje ukoliko je bolest infektivne prirode.

Posebne procedure koje se primenjuju u toku porođaja kod infektivnih bolesti doprinose da se bezbedno beba donese na svet, kao i da se zaštiti tim zdravstvenih radnika i saradnika koji posredno i neposredno učestvuju u procedurama.

Retrospektivnom metodom analizirala sam broj hospitalizovanih žena u Službi za ginekologiju i akušerstvo OB Požarevac, uvidom u medicinsku dokumentaciju, prikazivanjem slučaja, kao i kroz lično radno iskustvo.

Dobijeni rezultati ukazuju na visok procenat uspešnosti očuvanja zdravlja majke, novorođenčeta i osoblja. Kada se na jednom mestu spoje ljubav i kompetencije, rezultat je uvek pozitivan.

Abstract

Childbirth is the termination of pregnancy in which one or more babies leave the mother's womb via a vaginal passage or cesarean section. According to the WHO (World Health Organization) definition, a normal pregnancy lasts 37 to 42 weeks. A birth that occurs before 37 weeks is called a premature birth, and one that occurs after 42 weeks of pregnancy is a prolonged pregnancy, i.e. postmaturity. About 15 million children were born before 37 weeks of gestation, while between 3 and 12% were born after 42 weeks. In the developed world, most births take place in hospitals, while in developing countries, most births take place in homes with the help of traditional midwives.

Each year complications from pregnancy and childbirth lead to about 500,000 maternal mortalities, 7 million women have serious long-term problems, and 50 million women have negative health outcomes after childbirth. The outcome of childbirth largely depends on the state of health of the pregnant woman, which is further complicated if the disease is of an infectious nature. Special procedures that are applied during childbirth in case of infectious diseases contribute to the safe delivery of the baby, as well as to protect the team of health workers and associates who directly and indirectly participate in the procedures.

Using a retrospective method, I analyzed the number of hospitalized women in the gynecology and obstetrics service of the General Hospital in Požarevac, by looking at the medical documentation, presenting the case, as well as through personal work experience.

The obtained results indicate a high percentage of success in preserving the health of the mother, newborn, and staff. When devotion and competence come together in one place, the result is always positive.





Apstinencijalni sindrom novorođenčeta

Neonatal Abstinence Syndrome

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Apstrakt

Uvod: Apstinencijalni sindrom novorođenčeta je predstavljen skupom simptoma, ispoljenih po rođenju, kod novorođenčeta čije su majke u trudnoći (zlo) upotrebljavale opioide, ali i druge psihoaktivne supstance. Prvi put je opisan 1875. godine i nazvan je „kongenitalni morfinizam”. Zloupotreba opojnih droga u poslednjoj deceniji je u porastu, te je i incidencija NAS u porastu (8,8 na 1000 porođaja u hospitalnim uslovima, podatak iz SAD 2016). Klinički simptomi se ispoljavaju kod 60% do 80% novorođenčadi, koja je izložena opioidima in utero, najčešće u prva 72 sata do 7 dana po rođenju. Izdvajaju se 3 grupe simptoma: neurološki simptomi (hiperekscitabilnost, tremorozni pokreti, hipertonus, dugotrajni plač, naglašen Moro, konvulzije...), simptomi GIT-a (dijareja, povraćanje, gubitak telesne težine), simptomi autonomnog nervnog sistema (znojenje, tahipnea, tahikardija, povišena telesna temperatura, zamušnost nosa i kijanje). Dijagnoza se postavlja na osnovu anamnestičkih podataka (koji često nisu potpuni i relevantni), kliničke slike (Finnegan skor, manje upotrebljavani Lipsitz skor, Ostrea bodovanje), detekcije psihoaktivnih supstanci u majčinom i bebinom uzorku urina, mekonijalnoj stolici, tkivu pupčanika, kosi. Diferencijalno dijagnostički dolazi u obzir hipoglikemija, elektrolitni disbalansi, hipoksično ishemijska encefalopatija, intrakranijalna hemoragija. Terapija može biti nefarmakološka: boravak novorođenčeta u tihoj, zamračenoj prostoriji, redovno hranjenje na zahtev, ohrabivanje dojenja, u slučaju kontrolisane primene sintetskih zamena (metadon, buprenorfin), u odsustvu HIV pozitivnosti majke. Farmakološki tretman se odnosi na teže slučajeve: morfin oralno, metadon ili buprenorfin oralno, fenobarbiton oralno, muskularno ili intravenski, kao terapija drugog izbora ili adjuvantna terapija.

Cilj: Ukazati na probleme u dijagnostici NAS, kao i na probleme koji nastaju u zbrinjavanju NAS, zbog nepostojanja jedinstvenih terapijskih smernica i protokola (kada je dovoljno samo nefarmakološko zbrinjavanje, a kada i kako započeti farmakološku terapiju, koliko dugo).

Metoda rada: Praćenje novorođenčadi sa NAS u protekle 3 godine, na Dečijem odeljenju OB Požarevac.

Rezultati: Svako novorođenče sa NAS zahteva specifičan pristup, dugotrajnu terapiju i produženu hospitalizaciju, što će biti navedeno u prikazu slučajeva.

Zaključak: Da bi se novorođenčad sa NAS što efikasnije lečila, potrebno je na vreme identifikovati trudnicu zavisnika i prevesti je na kontrolisane doze sintetičkih ekvivalenata, standardizovati dijagnostičke kriterijume i smernice za primenu nefarmakoloških postupaka u lečenju, kao i farmakoterapije (šta, kada i kako).

Abstract

Introduction: Neonatal abstinence syndrome is represented by a set of symptoms, manifested at birth, in newborns whose mothers used opioids and other psychoactive substances during pregnancy. It was first described in 1875 and was called “congenital morphinism”. The abuse of drugs has been increasing in the last decade, and the incidence of NAS is also increasing (8.8 per 1000 births in hospital conditions, data from the USA in 2016). Clinical symptoms appear in 60 to 80% of newborns exposed to opioids in utero, most often in the first 72 hours to 7 days after birth. There are 3 groups of symptoms: neurological symptoms (hyperexcitability, tremors, hypertonus, prolonged crying, accentuated Moro, convulsions...), GIT symptoms (diarrhea, vomiting, weight loss), autonomic nervous system symptoms (sweating, tachypnea, tachycardia, high body temperature, nasal congestion, and sneezing). The diagnosis is made on the basis of anamnestic data (which are often not complete and relevant), clinical picture (Finnegan score, less used Lipsitz score, Ostrea scoring), detection of psychoactive substances in mother's and baby's urine sample, meconium stool, umbilical cord tissue, hair. Differential diagnosis includes hypoglycemia, electrolyte imbalances, hypoxic-ischemic encephalopathy, and intracranial hemorrhage. Therapy can be non-pharmacological: the newborn's bed in a quiet, darkened room, regular feeding on demand, encouraging breastfeeding, in the case of controlled use of synthetic substitutes (methadone, buprenorphine), in the absence of HIV positivity of the mother. Pharmacological treatment refers to more severe cases: morphine orally, methadone or buprenorphine orally, phenobarbitone orally, intramuscularly or intravenously, as second choice therapy or adjuvant therapy.

Aims: To indicate the problems in the diagnosis of NAS, as well as the problems that arise in the treatment of NAS, due to the absence of unique therapeutic guidelines and protocols (when only non-pharmacological treatment is sufficient, and when and how to start pharmacological therapy, for how long).

Method of work: Monitoring newborns with NAS over the past 3 years, at the children's department of the General Hospital in Požarevac.

Results: Each newborn with NAS requires a specific approach, long-term therapy, and prolonged hospitalization, which will be indicated in the case report.

Conclusion: In order to treat newborns with NAS as effectively as possible, it is necessary to identify pregnant addicts in time and transfer them to controlled doses of synthetic equivalents, standardize diagnostic criteria and guidelines for the application of non-pharmacological procedures in treatment, as well as pharmacotherapy (what, when and how).





Пациент с аутизъм - специфики и различия

A Patient with Autism - Specificities and Differences

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Апстракт

Въведение: Аутизмът представлява первазивно разстройство на развитието на мозъчните функции, което пречи на човешкия индивид да организира и разбира информацията, която получава чрез своите сетива.

Аутизмът се появява самостоятелно или се съчетава с други увреждания, което значително влошава клиничната картина. Това заболяване е силно инвалидиращо разстройство на развитието, което се диагностицира след три годишна възраст и се задържа статично до края на живота.

Цел: Целта на настоящото проучване е да се изработи подходящ модел за работа с пациенти с аутизъм при болничният им престой, с което да се улесни сестринската дейност и да се повиши качеството на медицинското обслужване.

Материал и методи: Използвани са документарен метод и наблюдение по предварително зададени показатели.

Резултати: Медицински специалисти обучени за работа с аутист, липсват и това изисква добра информираност за заболяването, която информираност да се съотнесе към всеки индивидуален пациент. Медицинското обгрижване е затруднено от специфичната комуникация с пациента или по-скоро на липсата на такава. Качествените нарушения в развитието на езика са предпоставка за неефективно общуване, което налага и необходимост от използване на спомагателни форми на комуникация. Това удължава времето за обслужване на пациента и изисква наличието на умения и компетенции специфични за работа с аутист.

Заклучение: Необходима е популяризация на спецификата на заболяването аутизъм сред медицинските специалисти, както и изграждане на умения за работа с тях.

Abstract

Introduction: Autism is a pervasive disorder of the development of brain functions that prevents a person from organizing and understanding the information they receive through their senses. Autism occurs independently or in combination with other disorders, which significantly worsens the clinical picture. This disease is a severely disabling developmental disorder that is diagnosed after the age of three and remains static for the rest of life.

Aims: The objective of this study is to develop an appropriate model for working with patients with autism during a hospital stay, which will facilitate care and increase the quality of medical care.

Material and methods: The documentary method was used and monitoring of pre-set indicators.

Results: There is a lack of medical professionals trained to work with autism, and this requires a good awareness of the disease, which awareness should be linked to each individual patient. Medical care is hindered by specific communication with the patient, or the lack of such communication. Qualitative disorders in language development are a prerequisite for ineffective communication, which requires the use of supporting forms of communication. This increases patient care time and requires the presence of skills and competencies specific to working with autism.

Conclusion: It is necessary to popularize the specifics of autism among medical professionals, as well as to build skills for working with them. Medical care is blocked by specific communication with the patient, or the lack of such communication. Qualitative disorders in language development are a prerequisite for ineffective communication, which requires the use of supporting forms of communication. This increases patient care time and requires the presence of skills and competencies specific to working with autism.



Preporučena imunizacija u pedijatriji

Recommended Immunization in Pediatrics

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Apstrakt

Uvod: Među svim merama prevencije zaraznih bolesti, imunizacija predstavlja najbržu, najefikasniju i ekonomski najop-ravdaniju meru. Preporučena aktivna imunizacija lica odre-denog uzrasta sprovodi se u skladu sa stručno-metodološkim uputstvom Instituta za javno zdravlje Srbije „Dr Milan Jovanović Batut“. Preporučena aktivna imunizacija lica određenog uzrasta sprovodi se na osnovu preporuke doktora medicine ili doktora specijaliste odgovarajuće grane medicine koji sprovodi imu-nizaciju, uz prethodnu pismenu saglasnost lica koje se aktivno imunizuje, odnosno njegovog zakonskog zastupnika. Pismena saglasnost ili odbijanje saglasnosti za preporučenu aktivnu imunizaciju daje se na Obrascu 3 koji je odštampan uz pravilnik i čini njegov sastavni deo.

Preporučena imunizacija dece je imunizacija koju pedijatar preporučuje, u skladu sa programom imunizacije stanovniš-tva protiv određenih zaraznih bolesti. Jedna od preporučenih imunizacija je protiv infekcije Haemophilusom influenzae tip b, koja predstavlja značajan zdravstveni, biološki i ekonomski problem, posebno u nerazvijenim zemljama sveta u kojima se još uvek ne sprovodi aktivna imunizacija lica određenog uzrasta protiv ovog oboljenja. Prema podacima Svetske zdrav-stvene organizacije, u svetu godišnje oboli najmanje 3.000.000 dece, a umire 400.000 do 700.000. Najčešće oboleva uzrast od 4 do 18 meseci, ređe obolevaju deca u uzrastu mlađem od 3 meseca i starijem od 6 godina.

Humani papiloma virus izaziva virusne infekcije organa re-produktivnog trakta. HPV se prenosi seksualnim putem i predstavlja neophodan, mada ne i dovoljan uslov za nastanak genitalnih kondiloma i malignih neoplazmi, najčešće na grli-ću materice. Uzročnik je humani papiloma virus DNK. Izme-đu infekcija HPV-om i razvoja karcinoma prođe više od 10 godina. Trenutno se primenjuju dve vakcine protiv HPV-a. Obe sadrže inaktivisane subjedinice. Bivalentna vakcina (HPV2) se primenjuje samo kod žena, dok se četvorovalentna (HPV4) primenjuje i kod muškaraca i kod žena. Prioritetna grupa za davanje vakcina su devojčice uzrasta od 9 do 13 godina. Imunizacija sa tri doze po mesecima (0,1–2,6) može se sprovoditi i kod devojaka i žena starijih od 15 godina koje nisu prethodno vakcinisane, kod imunosuprimiranih osoba, uključujući i osobe sa HIV infekcijom.

Zaključak: Zdravstveno-vaspitni rad je od velikog značaja u sprovođenju imunizacije. Upoznavanje roditelja sa značajem vakcinacije je zadatak svih zdravstvenih radnika: medicina počiva na poverenju između zdravstvenih radnika i građana.

Abstract

Introduction: Among all infectious disease prevention measures, immunization is the fastest, most effective, and economically justifiable measure. The recommended active immunization of people of a certain age is carried out in alignment with the pro-fessional-methodological instructions of the Institute for Public Health of Serbia “DrMilan Jovanović Batut”. The recommended active immunization of a person of a certain age is carried out based on the recommendation of a medical doctor or a doctor specializing in the appropriate branch of medicine who carries out the immunization with the prior written consent of the per-son being actively immunized, that is, their legal representative. Written consent or refusal of consent for recommended active immunization is given on Form 3, which is printed with the rule-book and forms an integral part of it.

Recommended immunization of children is immunization rec-ommended by a pediatrician, in accordance with the population immunization program against certain infectious diseases. One of the recommended immunizations is against Haemophilus in-fluenzae type b infection, which represents a significant health, biological and economic problem, especially in underdeveloped countries of the world where active immunization of people of a certain age against this disease is still not carried out. According to data from the World Health Organization, at least 3,000,000 children fall ill, and 400,000 to 700,000 die. The age of 4 to 18 months is most often affected, and children younger than 3 months and older than 6 years are less often affected.

The human papillomavirus causes viral infections of the organs of the reproductive tract. HPV is transmitted sexually and is a necessary, but not sufficient, condition for the appearance of gen-ital warts and malignant neoplasms, most often on the cervix. The causative agent is human papillomavirus DNA. More than 10 years pass between HPV infections and the development of cancer. Two HPV vaccines are currently in use. Both contain in-activated subunits. The bivalent vaccine (HPV2) is administered only to women, while the quadrivalent (HPV4) is administered to both men and women. The priority group for vaccinations in-cludes girls aged 9-13. Immunization with three doses per month (0.1-2.6) can be carried out in girls and women over 15 years of age who have not been previously vaccinated, in immunosup-pressed people, including people with HIV infection.

Conclusion: Health education work is of great importance in the implementation of immunization. Introducing parents to the importance of vaccination is the task of all health workers: medi-cine is based on trust between health workers and citizens.





Грижи и предпазни средства при инфекциозно болни

The Equipment for Care and Protection for Infectious Diseases

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Апстракт

Въведение: Основна характеристика на инфекциозните болести е социалната им значимост. Разпространението на инфекциозните заболявания, както и намирането на правилен подход за ограничаването им е един сериозен и актуален проблем. Въпреки високите технологии, инфекциозните заболявания остават световен проблем в мащабен план. В терапевтичния екип, осигуряващ диагностично-лечебния процес на пациентите с инфекциозни заболявания, съществено място заема медицинската сестра. Нейната роля е значима, както в промотивните и профилактичните грижи за здравето на населението, така и при вече проявило се инфекциозно заболяване. Важността от лечението и грижите за пациентите, обаче не трябва да са приоритет пред превенцията.

Борбата с инфекциозните заболявания, преминава през процеса за създаване на висока здравна култура, чрез информиране на населението за използване на лични предпазни средства, висока лична хигиена, редовна профилактика и обучение, особено на подрастващите, както в болнична обстановка, така и в дома.

Цел: Изграждане у студентите на практически умения по планиране, организация и изпълнение на сестринските грижи, изграждане на приоритети в индивидуалния подход към болния, умения за разпознаване на клиничните прояви и придобиване на необходима квалификация за работа в инфекциозно отделение.

Материал и методи: Метод на пряко наблюдение в естествена среда на обектите на изследването.

Заклучение: Наред с осъществяването на комплекс от сестрински мероприятия, медицинската сестра активно участва със своята професионална компетентност и в обучението на пациента и неговото семейство в здравословен начин на живот и избягване усложненията от заболяването. Въпреки че, лечението на вече заболелите лица и грижите за пациентите са важни, то социалната и икономическа значимост остава приоритет за обществено-здраве чрез превенцията на заболяванията.

Abstract

Introduction: The basic characteristic of infectious diseases is their social importance. The spread of infectious diseases, as well as finding the right approach for their suppression, is a serious and urgent problem. Despite high technology, infectious diseases remain a global problem on a large scale. The nurse plays an important role in the therapeutic team that ensures the process of diagnosis and treatment of patients with infectious diseases. Its role is significant both in the promotional and prophylactic care of a healthy population, as well as in an already manifested infectious disease. However, the importance of treatment and patient care should not be prioritized over prevention.

The fight against infectious diseases goes through the process of creating a high health culture, by informing the population about the use of personal protective equipment, high personal hygiene, regular prevention, and training, especially for adolescents, both in hospital conditions and at home

Aims: To build students' practical skills in planning, organizing, and implementing nursing care, building priorities in an individual approach to the patient, skills for recognizing clinical manifestations, and acquiring the necessary qualifications for work in the infectious department.

Materials and methods: The method of direct observation in the natural environment of the objects of study.

Conclusion: Along with the implementation of a set of nursing activities, the nurse, with her professional skills, actively participates in educating the patient and his family about a healthy lifestyle and avoiding complications of the disease.



Psorijaza

Psoriasis

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Apstrakt

Psorijaza je sistemsko, autoimunska inflamatorna oboljenja sa reaktivnom abnormalnom epidermalnom diferencijacijom i hiperproliferacijom, sa povećanim rizikom za razvoj komorbiditeta – kardiovaskularnih bolesti, metaboličkih oboljenja, dijabetesa, obesitasa.

Osnovni ciljevi lečenja su brzo i efikasno poboljšanje kliničke slike, održavanje poboljšanja, minimalne kratkoročne i dugoročne posledice, poboljšanje kvaliteta života.

Na osnovu podataka o kliničkoj efikasnosti poboljšanja kvaliteta života kod primene bioloških agensa, donesene su sledeće preporuke.

International Consensus Conference: „Biološke agense treba svrstati u ravnopravne, među primarnim terapijskim agensima u svakodnevnoj kliničkoj praksi za lečenje psorijaze kod pacijenata koji su kandidati za primenu sistemske terapije”.

Biološka terapija je jednostavna za bolesnike, nisu potrebne duge hospitalizacije, skraćuje odsustva sa posla.

Abstract

Psoriasis is a systemic, autoimmune inflammatory disease with reactive abnormal epidermal differentiation and hyperproliferation, with an increased risk for the development of comorbidities - cardiovascular diseases, metabolic diseases, diabetes, and obesity.

The main goals of treatment are rapid and effective improvement of the clinical picture, maintenance of improvement, minimal short-term and long-term consequences, and improvement of quality of life.

Based on the data on the clinical effectiveness of improving the quality of life when applying biological agents, the following recommendations were made.

International Consensus Conference: “Biological agents should be ranked equally among primary therapeutic agents in daily clinical practice for the treatment of psoriasis in patients who are candidates for systemic therapy”

Biological therapy is simple for patients, long hospitalizations are not required, and it shortens absences from work.





Značaj uvođenja sistemske vakcinacije protiv *Haemophilus influenzae* tip b

The Importance of Introducing Systemic Vaccination against *Haemophilus Influenzae* Type b

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Apstrakt

Infekcije *Haemophilus influenzae* tip b predstavljaju značajan zdravstveni, biološki i ekonomski problem, posebno u nerazvijenim zemljama sveta u kojima se još uvek ne sprovodi aktivna imunizacija lica određenog uzrasta protiv ovog oboljenja.

Prema podacima Svetske zdravstvene organizacije, u svetu godišnje oboli najmanje 3.000.000 dece, a umire 400.000 do 700.000. Najčešće obolevaju deca uzrasta od 4 do 18 meseci, ređe obolevaju deca u uzrastu mlađem od 3 meseca i starijem od 6 godina. Izražen rizik je: transplantacija tkiva i organa, splenektomija i srpasta anemija, hemioterapija i terapija zračenjem, imunodeficijencija, HIV infekcija. Oboljenje izazvano *Haemophilus influenzae* tip b najčešće ima blagi klinički tok ili je praćeno samo pojavom nazofaringealnog kličoštva, dok je kod manjeg broja dece (1–5%) praćeno i komplikacijama: meningitis, pneumonija, sepsa, epiglottitis, otitis, artritis i dr.

Na ovoj edukaciji poseban akcenat će biti dat značaju sprovođenja mera primarne prevencije, pre svega aktivne imunizacije lica određenog uzrasta protiv ovog oboljenja, koja se u Republici Srbiji sprovodi od 2006. godine. Od uvođenja pomenute mere specifične profilakse na teritoriji nadležnosti Instituta za javno zdravlje u Nišu (Nišavski i Toplički okrug) nije registrovana nijedna epidemija ovog oboljenja, kao i nijedan slučaj oboljenja, praćen komplikacijama i smrtnim ishodom.

Abstract

Infections with *Haemophilus influenzae* type b disease represent a significant health, biological and economic problem, especially in underdeveloped countries of the world where active immunization of persons of a certain age against this disease is still not carried out.

According to data from the World Health Organization, at least 3,000,000 children fall ill, and 400,000 to 700,000 die. It most often affects children between the ages of 4 and 18 months, less often children younger than 3 months and older than 6 years. High risk is tissue and organ transplantation, splenectomy and sickle cell anemia, chemotherapy and radiation therapy, immunodeficiency, and HIV infection. The disease caused by *Haemophilus influenzae* type b usually has a mild clinical course or is accompanied only by the appearance of nasopharyngeal germs, while in a smaller number of children (1-5%) it is also accompanied by complications: meningitis, pneumonia, sepsis, epiglottitis, otitis, arthritis, etc.

In this training, special emphasis will be given to the importance of implementing primary prevention measures, primarily active immunization of people of a certain age against this disease, which has been implemented in the Republic of Serbia since 2006. Since the introduction of the mentioned measure of specific prophylaxis in the territory of the Public Health Institute in Niš (The Nišava and Toplica districts), no epidemic of this disease has been registered, nor has a single case of the disease followed by complications and death.





Lečenje reumatskih bolesnika primenom balneoterapijskih procedura

Treatment of Rheumatic Patients Using Balneotherapy Procedures

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Apstrakt

Reumatske bolesti predstavljaju veliku grupu oboljenja, najčešće nepoznate etiologije i prognoze. Karakterišu ih promene na lokomotornom aparatu, upalni procesi, bol, smanjena pokretljivost. Zbog svog hroničnog toka predstavljaju značajan lični, porodični i društveni problem. Zahtevaju poseban tretman u pogledu dijagnostikovanja, prevencije, lečenja, rehabilitacije i resocijalizacije.

Reumatske bolesti su, prema istraživanjima Instituta Batut, na prvom mestu po učestalosti kod nas, a i svetu. Najčešće se javljaju kod osoba starijih od 60 godina – 81%, slede oni od 19 do 59 godina (oko 18%), do 18 godina oko 1%. Zabrinjavajuća je činjenica da od zapaljenjskog reumatizma najčešće obolevaju deca starosti između 3 i 7 godina.

Lečenje reumatskih bolesti je medikamentozno i balneoterapijskim procedurama. Kada se iscrpe sve mogućnosti ove dve metode, pristupa se operativnom lečenju.

Balneoterapija predstavlja kompleksnu terapijsku disciplinu, zasnovanu na primeni vode (primena opštih i lokalnih kupki), lekovitih gasova i peloida (lekovitog blata). Njome se utiče na imuni sistem organizma, stimuliše se cirkulacija kako kroz krvne, tako i limfne sudove, ubrzava se ćelijska aktivnost i ozdravljenje organizma. Balneoterapija deluje na organizam direktno (mehaničko, termičko i hemijsko dejstvo) i indirektno (nespecifična stimulacija fizioloških funkcija nervnog, endokrinog i imunog sistema). Balneoterapijska doza je određena sledećim faktorima: intenzitetom nadražaja, trajanjem procedure i izložene površine tela. Individualni pristup svakom pacijentu predstavlja imperativ pravilnog lečenja reumatskih bolesti. Balneoterapija se sprovodi etapno: pošteдна faza, puna doza balneoterapije, faza konsolidacije. Kod neadekvatnog doziranja balneoterapijske doze dolazi do pojave bola, težine u ekstremitetima, neurovaskularne labilnosti ili opšte slabosti organizma, glavobolje i vrtoglavice i jačanja aktivnosti zapaljenjskih procesa. Pravilno i individualno dozirana balneoterapija dovodi do smanjenja bolova i otoka zglobova, skraćenja jutarnje ukočenosti, poboljšava pokretljivost, relaksira miškulaturu, poboljšava izdržljivost i balans.

U zaključku se može reći da je balneoterapija superiornija od uobičajene fizikalne terapije, i u lečenju reumatskih bolesti ima važnu ulogu u prevenciji i rehabilitaciji. Neželjeni efekti su minimalni kod pravilnog doziranja, a povoljni efekti su dugotrajni. Pravilnim doziranjem balneofizikalnih procedura, bolest se može držati pod kontrolom i može se poboljšati kvalitet života obolelih od reumatskih bolesti, što ima i veliki psihološki efekat.

Abstract

Rheumatic diseases represent a large group of diseases, most often of unknown etiology and prognosis. They are characterized by changes in the locomotor apparatus, inflammatory processes, pain, and reduced mobility. Due to their chronic course, they represent a significant personal, social, and family issue. They require special treatment in terms of diagnosis, prevention, treatment, rehabilitation, and resocialization.

According to research by the Institute of Dr Milan Jovanović Batut, rheumatic diseases are the most common in our country and in the world. They most often occur in people over 60 years old - 81%, followed by those aged 19-59 about 18%, up to 18 years old about 1%. It is a worrying fact that inflammatory rheumatism most often affects children between the ages of 3 and 7.

Rheumatic diseases are treated with medication and balneotherapy procedures. When all possibilities of these two methods are used, operative treatment is approached.

Balneotherapy is a complex therapeutic discipline, based on the application of water (application of general and local baths), medicinal gases, and peloid (healing mud). It affects the body's immune system, stimulates circulation both through blood and lymph vessels, and accelerates cellular activity and healing of the body. Balneotherapy affects the body directly (mechanical, thermal, and chemical action) and indirectly (non-specific stimulation of the physiological functions of the nervous, endocrine, and immune systems). The balneotherapy dose is determined by the following factors: the intensity of stimulation, the duration of the procedure, and the exposed body surface.

An individual approach to each patient is imperative for the proper treatment of rheumatic diseases. Balneotherapy is carried out in stages: sparing phase, full dose of balneotherapy, and consolidation phase. Inadequate dosing of the balneotherapy dose leads to the appearance of pain, heaviness in the extremities, neurovascular lability or general weakness of the body, headaches, and dizziness, and increased activity of inflammatory processes. Correctly and individually dosed balneotherapy leads to a reduction in joint pain and swelling, shortening of morning stiffness, improves mobility, relaxes the muscles, and enhances endurance and balance.

In conclusion, it can be said that balneotherapy is superior to usual physical therapy and has an important role in the prevention and rehabilitation in the treatment of rheumatic diseases. Adverse effects are minimal with proper dosage, and beneficial effects are long-lasting. By correct dosing of balneophysical procedures, the disease can be kept under control and the quality of life of rheumatic diseases can be improved, which also has a great psychological effect.





Ekstrakcija stranih tela traheobronhijalnog stabla i jednjaka

Extraction of Foreign Bodies of Tracheobronchial Tree and Esophagus

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Apstrakt

Traheobronhoskopija

Osim manjeg, gornjeg dela traheje koji se uočava pri indirektnoj laringoskopiji, ostali deo traheobronhijalnog stabla zahteva dodatno ispitivanje.

Rigidni bronhoskopi predstavljaju metalnu cev na čijem je proksimalnom kraju postavljen otvor za direktno posmatranje kroz bronhoskop ili za postavljanje video-kamere, što dozvoljava praćenje promena u traheobronhijalnom stablu na ekranu. Otvor za priključak na anesteziološki aparat omogućava izvođenje intervencije u opštoj endotrahealnoj anesteziji, a tu je i priključak za svetlosni izvor. Bronhoskopi su različitog promera, najmanji 2,5 mm, dužine 20 cm, a najveći 8,5 mm, dužine 43 cm. Na distalnom kraju sa strane nalaze se brojni otvori za prolazak vazduha i anestetika. Optike su različitih dimenzija i uglova i mogu se uvesti u bronhoskop i sa uvećanjem posmatrati promene u disajnom putu. Tu su još i hvataljke i aspiracione cevi, direktoskop i set za traheotomiju.

Fleksibilni bronhoskopi se prave vrlo malih dimenzija, sa mogućnošću savijanja vrha bronhoskopa što dozvoljava ulazak u segmentalne i bronhe nižeg ranga. Obično su povezani preko video-kamere na monitor, čime je omogućeno praćenje pravca pružanja bronhoskopa i patoloških promena. Ova intervencija se radi u lokalnoj anesteziji, u ležećem ili sedećem položaju, ili u opštoj anesteziji, kada se bronhoskop uvodi kroz anesteziološki tubus.

Indikacije za bronhoskopiju su: urođene anomalije traheje i bronha, strana tela traheje i bronha, zapaljenjski procesi, tumori, hemoptoa, paralize n. rekurensa, stenoze traheje, traheozofagealne fistule. Rigidna traheobronhoskopija se izvodi u opštoj anesteziji, ležeći je položaj sa zabačenom glavom, direktoskopom se prikaže larinks, bronhoskopski tubus se uvodi u traheju, odstranjuje se direktoskop, pregleda se traheja, karina, desni bronh, ušća lobarnih bronha, levi bronh i ušća lobarnih bronha.

Strana tela disajnih puteva spadaju u najurgentnija stanja u medicini. Neadekvatna i neblagovremena pomoć vodi smrtnom ishodu ili su komplikacije teške i dugotrajne. Najveći broj aspiracija (75%) se dešava kod dece između jedne i tri godine.

Abstract

Tracheobronchoscopy

Except for the smaller, upper part of the trachea that can be seen during indirect laryngoscopy, the rest of the tracheobronchial tree requires additional examination.

Rigid bronchoscopes represent a metal tube at the proximal end of which is placed an opening for direct observation through the bronchoscope or for placing a video camera, which allows monitoring of changes in the tracheobronchial tree on the screen. An opening for connection to anesthesiological apparatus, which enables intervention in general endotracheal anesthesia and a connection for a light source. Bronchoscopes are of different diameters, the smallest 2.5 mm, 20 cm long, the largest 8.5 mm, 43 cm long. At the distal end on the side, there are numerous openings for the passage of air and anesthetic. Optics of different dimensions and angles can be introduced into the bronchoscope and observe changes in the airway by zooming in. There are also nippers and aspiration tubes, a directoscope, and a set for tracheotomy.

Flexible bronchoscopes are made of very small dimensions with the possibility of bending the tip of the bronchoscope, which allows entry into segmental and lower bronchi. They are usually connected via a video camera to a monitor, which enables the monitoring of the direction of the bronchoscope and pathological changes. It is performed under local anesthesia in a lying or sitting position or under general anesthesia when the bronchoscope is introduced through the anesthesia tube.

Indications for bronchoscopy are congenital anomalies of the trachea and bronchus, foreign bodies of the trachea and bronchus, inflammatory processes, tumors, hemoptysis, paralysis n. recurrence, tracheal stenosis, tracheoesophageal fistula. Rigid tracheobronchoscopy is performed under general anesthesia, lying down with the head turned back, the larynx is visualized with a directoscope, the bronchoscopic tube is introduced into the trachea, the directoscope is removed, the trachea, carina, right bronchus, confluence of lobar bronchi, left bronchus and confluence of lobar bronchi are examined.

Foreign bodies of the respiratory tract are among the most urgent conditions in medicine. Inadequate and untimely help leads to death or severe and long-lasting complications. The largest number of aspirations (75%) occurs in children between the age of one and three.



Prva pomoć

U momentu zadesa odmah okrenuti dete glavom nadole. Može se pokušati i manevar, pritiskom u području dijafragme. Mogućnost eliminacije stranog tela na ovaj način je uspešan u manje od 1% slučajeva, pa na njih ne treba gubiti vreme. Povređenog što pre treba transportovati u odgovarajuću ORL ustanovu gde će mu biti pružena adekvatna pomoć.

Strana tela jednjaka

Strana tela u jednjaku nastaju zbog promena u zidovima jednjaka kao što su divertikulumi i tumori, ili zbog prirode veličine i oblika stranog tela. Terapija se sastoji u ekstrakciji rigidnom ezofagoskopijom, u opštoj anesteziji. Ukoliko ekstrakcija nije moguća, strano telo se može nasilno progurati u želudac.

First aid

At the moment of the accident, immediately turn the child upside down. You can also try a maneuver by pressing in the area of the diaphragm. The possibility of eliminating a foreign body in this way is successful in less than 1% of cases, so you should not waste time on them. The injured person should be transported as soon as possible to the appropriate ORL institution where he will be provided with adequate assistance.

Foreign bodies of the esophagus

Foreign bodies in the esophagus occur due to changes in the walls of the esophagus such as diverticulum and tumors, or due to the nature of the size and shape of the foreign body. Therapy consists of extraction by rigid esophagoscopy, under general anesthesia. If extraction is not possible, the foreign body can be forced into the stomach.

Oralno zdravlje i alkoholizam

Oral Health and Alcoholism

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Dom zdravlja Požarevac

Healthcare Center Požarevac

Apstrakt

Uvod: Prema Svetskoj zdravstvenoj organizaciji, alkoholizam se definiše kao dugotrajna ili povremena konzumacija alkoholnih pića koja dovodi do gubitka kontrole nad konzumacijom alkohola, učestalih intoksikacija, preokupacije alkoholom, te dalje i sve češće konzumacije alkohola sa očiglednim štetnim posledicama (fizičkim, psihičkim, socijalnim i ekonomskim).

Alkoholičar je osoba koja duže vreme prekomerno pije alkoholna pića, što razvija zavisnost od alkohola, koja dovodi do poremećaja u ponašanju i oštećenja duševnog i telesnog zdravlja. Pojam alkoholičara podrazumeva i one osobe koje pokazuju početke poremećaja. Učestala konzumacija većih količina alkoholnih pića ima poguban uticaj na zdravlje celog organizma, uključujući i usnu šupljinu. Tako su kod zavisnika od alkohola, u poređenju sa ostalom populacijom, puno češće pojave karijesa i bolesti desni, karcinomi jezika, grla i grkljana. Rizik od pojave oralnih karcinoma dodatno se povećava, ako je alkoholičar ujedno i pušač.

Cilj rada: Ovaj rad ima za cilj da pruži kratak osvrt na postupke i mere koje stomatolog treba da ima u vidu kada zbrinjava pacijente koji su zavisni od alkohola.

Metod rada: Istraživanje je realizovano u Stomatološkoj službi Doma zdravlja Požarevac i Opštoj bolnici u Požarevcu, u toku 2021. godine, kroz razna testiranja, uvidom u medicinsku dokumentaciju, kao i kroz lično radno iskustvo.

Rezultati: Upoznavanje sa značajem redovnih poseta stomatologu radi prevencije bolesti zuba i usta. Ozbiljni su problemi sa kojima se stomatolog susreće u lečenju ovih pacijenata, jer su skloni infekciji, krvarenju, a i ograničen im je izbor i doza lekova koje je potrebno ordinirati, kako u profilaktičke, tako i u terapijske svrhe.

Zaključak: Učestala i dugotrajna prekomerna konzumacija alkohola ima štetan uticaj na oralno zdravlje. Neke od posledica zavisnosti od alkohola mogu biti manje opasne, poput sklonosti karijesu i parodontnim bolestima, dentalnim erozijama, a neke mogu biti mnogo ozbiljnije i složenije, poput karcinoma usta, glave i vrata. Smanjenje i/ili prestanak konzumacije alkohola jedini je siguran put koji može dovesti do poboljšanja i oralnog i celokupnog zdravstvenog stanja zavisnika. Kod svih zavisnika od alkohola, a posebno onih koji za alkoholom potežu u svrhu savladavanja poteškoća svakodnevnog života, poboljšanje oralnog zdravstvenog statusa može dovesti i do poboljšanja samopercepcije, što se može pokazati kao vrlo bitan faktor u psihoterapijskom postupku lečenja od alkoholizma.

Abstract

Introduction: According to the World Health Organization, alcoholism is defined as long-term or occasional consumption of alcoholic beverages that leads to loss of control over alcohol consumption, frequent intoxications, preoccupation with alcohol, and further and more frequent consumption of alcohol with obvious harmful consequences (physical, psychological, social and economic).

An alcoholic is a person who drinks alcoholic beverages excessively for a long time, which develops alcohol dependence, which leads to behavioral disorders and damage to mental and physical health. The term alcoholic includes those who show the beginnings of the disorder. Frequent consumption of large amounts of alcoholic beverages has a harmful effect on the health of the entire organism, including the oral cavity. Thus, compared to the rest of the population, caries and gum disease, tongue, throat, and larynx cancers are much more common among alcohol addicts. The risk of oral cancers increases further if an alcoholic is also a smoker.

Aims of paper: This paper aims to provide a brief overview of the procedures and measures that the dentist should take into account when caring for patients who are dependent on alcohol.

Method of work: The research was carried out in the Dental Service of the Požarevac Health Center and the General Hospital in Požarevac in the course of 2021, through various tests, an insight into the medical documentation as well as personal work experience.

Results: Familiarity with the importance of regular visits to the dentist for the prevention of dental and oral diseases. There are serious problems that the dentist faces in the treatment of these patients, because they are prone to infection and bleeding, and they have a limited choice and dose of drugs that need to be prescribed, both for prophylactic and therapeutic purposes.

Conclusion: Frequent and long-term excessive consumption of alcohol has a harmful effect on oral health. Some of the consequences of alcohol addiction can be less dangerous, such as the tendency to caries and periodontal diseases, and dental erosions, and some can be much more serious and complex, such as cancer of the mouth, head, and neck. Reducing and/or stopping the consumption of alcohol is the only sure way that can lead to an improvement in both the oral and overall health of the addict. In all alcohol addicts, and especially those who seek alcohol in order to overcome the difficulties of everyday life, improving oral health status can also lead to improved self-perception, which can prove to be a very important factor in the psychotherapeutic treatment of alcoholism.



Spirometrija

Spirometry

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Apstrakt

Uvod: Spirometrija je metoda kojom se određuje sposobnost ventilacije pluća. Spirometrija je zlatni standard u dijagnostici plućnih bolesti. Spirometrijski test daje podatke koji pomažu dijagnostikovanje plućnih bolesti i omogućava praćenje zdravstvenog stanja pluća. To je bezbolna metoda koja se izvodi na aparatu spirometru na kom se dobija dijagramski zapis. Ovo je standardni test koji pulmolozi često koriste kako bi izmerili kolika je optimalna funkcija pluća pacijenta. Na taj način se otkrivaju i mnoge korisne činjenice u vezi sa plućima i njihovim radom. Rezultati spirometrije pružaju podatke koji pomažu praćenje zdravstvenog stanja pluća i dijagnostikovanje plućnih bolesti kao što su: HOBP, tumori pluća različite etiologije, bronhijalna astma, emfizem pluća itd.

Cilj rada: Spirometrijom možemo dokazati da li je uopšte reč o plućnim bolestima (srčana oboljenja, kao i psihički poremećaji, mogu da izazovu gušenje i ponekad liče na plućne smetnje), a ako je reč o plućnim poremećajima, imamo tačan nalaz i u kom se delu pluća poremećaj i desio.

Izvođenje testa: Savet je da nekoliko časova pre testa nema fizičke aktivnosti, da nema zadihanosti pri užurbanom dolasku, nema obilnih obroka, da se ne pije kafa, ne puši, ne konzumiraju lekovi. To je potpuno bezbolna metoda za pacijente koja se brzo radi. Najčešće traje 10 do 15 minuta. Pacijent drži u ustima usnik sa antibakterijskim filterom, dok nos zatvaramo nosnom štipaljkom. Lekar specijalista pulmolog daje instrukcije pacijentu kako da diše u cev i pacijent treba da ih ispoštuje kako bi rezultati bili što realniji.

Reference testa se razlikuju s obzirom na pol, godine starosti, visinu i telesnu težinu. Parametri koji se prate su:

- FVC (forced vital capacity) – najveća količina izdahnutog vazduha nakon najdubljeg udisaja (inspirijuma),
- FEV (forced expiratory volume) – količina vazduha koja se može izdahnuti iz pluća u jednoj sekundi.

Spirometriju treba izbegavati, ako je pacijent imao skoro anginozni napad, srčani udar, nekontrolisano visok krvni pritisak, operaciju na glavi, grudima, očima i sl. Tada je spirometrija nebezbedna.

Zaključak: Kada izabrani lekar ili pulmolog primete da postoje određene indikacije koje mogu ukazati na neku vrstu problema sa plućima (otežano disanje, gubitak daha, iskašljavanje sekreta različite prirode), uputiće osobu na testiranje. Dakle, ovaj test se radi kada se primeti problem sa funkcijom pluća, te ne spada u one testove koje bi svako morao da radi na određen vremenski period. Na ovaj način vidimo da li je protok vazduha očekivan ili smanjen i koliko (izraženo u procentima).

Abstract

Introduction: Spirometry is a method used to determine the ventilatory capacity of the lungs. Spirometry is the gold standard in the diagnosis of lung diseases. The spirometry test provides data that help diagnose lung diseases and enables the monitoring of lung health. It is a painless method that is performed on a spirometer device, on which a diagrammatic record is obtained. This is a standard test that pulmonologists often use to measure how optimal a patient's lung function is. In this way, many useful facts about the lungs and their work are revealed. The results of spirometry provide data that help monitor the health of the lungs and diagnose lung diseases such as Chronic obstructive pulmonary disease (COPD), lung tumors of various etiologies, bronchial asthma, lung emphysema, etc.

Aims of the work: With spirometry, we can prove whether it is lung disease at all (heart disease, as well as mental disorders, can cause suffocation and sometimes look like lung disorders), and if it is a lung disorder we have an accurate finding and in which part of the lung the disorder had happened.

Performance of the test: The advice is to avoid physical activity a few hours before the test, shortness of breath when arriving in a hurry, heavy meals, drinking coffee, smoking, and taking medications. It is a completely painless method for patients that is performed quickly. It usually lasts 10 to 15 minutes. The patient holds a mouthpiece with an antibacterial filter in his mouth while the nose is closed with a nose clip. A specialist pulmonologist gives instructions to the patient on how to breathe into the tube and the patient should follow them so that the results are as realistic as possible.

Test references differ with regard to gender, age, height, and body weight. The parameters monitored are:

- FVC (Forced vital capacity) - the largest amount of exhaled air after the deepest inhalation (inspiration),
- FEV (Forced expiratory volume) - the amount of air that can be exhaled from the lungs in one second.

Spirometry should be avoided if the patient has had an angina attack, heart attack, uncontrolled high blood pressure, surgery on the head, chest, eyes, etc. Spirometry is not safe in these cases.

Conclusion: When the selected doctor or pulmonologist notices that there are certain indications that may indicate some kind of lung problem (difficulty breathing, loss of breath, coughing up secretions of a different nature), they will refer the person for testing. Therefore, this test is done when a problem with lung function is noticed, and it does not belong to those tests that one would definitely have to do for a certain period of time. In this way, we can see whether the airflow is expected or reduced and how much is expressed in percentages.





Infekcije hirurških rana

Surgical Wound Infections

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Apstrakt

Hirurške infekcije su najčešće bolničke infekcije i čine skoro jednu trećinu svih bolničkih infekcija. Javljaju se usled teških komplikacija koje uključuju boravak pacijenata na odeljenjima intenzivne nege, reoperacija, dužeg boravka u bolnici, produženog oporavka pacijenata, a dovode do estetskih i funkcionalnih nedostataka i veće stope mortaliteta. Infekcije rana predstavljaju veliki javnozdravstveni problem i finansijski teret za zdravstveni sistem.

Hirurška infekcija je stanje koje nastaje prodorom i razmnožavanjem mikroorganizma u organizmu čoveka. Najčešći uzročnici hirurških infekcija su nespecifične piogene bakterije, gram negativne enteralne, kao i mnogobrojne anaerobne bakterije. Ovi bakterijski sojevi često su otporni na širok spektar i standardne doze antibiotika, zbog čega ih je teško lečiti konzervativno.

Prevenција hirurških infekcija obuhvata niz mera koje se odnose na pripremu pacijenta, medicinskog osoblja i okruženja za operaciju, kao i na sam oporavak pacijenta. Preoperativne preventivne mere zahtevaju higijenu pacijenta, davanje adekvatne antibiotske profilakse.

Intraoperativne mere su veoma složene i zavise od strukture zdravstvene ustanove u kojoj se preduzima operativna procedura.

Uspešna nega hirurških rana zavisi od znanja i razumevanja fiziologije normalnog zarastanja rana, vrste operacije, metode zatvaranja i optimalnog tretmana nastale rane. Koristeći ovo znanje, lekari i medicinske sestre mogu pružiti sistematsku i holističku procenu pacijenata i time proceniti potencijalne komplikacije vezane za ranu. Saradnja između tima lekara i medicinskih sestara je od suštinskog značaja da bi se obezbedilo odgovarajuće zbrinjavanje rana i omogućilo optimalno zarastanje rana.

Prilikom lečenja hirurških rana, neophodno je izvršiti pravilnu obradu inficirane rane. Cilj hirurške obrade rane je da se stvore najpovoljniji biološki uslovi u prostoru rane kako bi se osiguralo njeno rano zarastanje, bez estetskog i funkcionalnog oštećenja. Uspešno tretiranje hirurške infekcije za pacijenta znači brz oporavak od operacije, kraći boravak u bolnici i izbegavanje komplikacija, kao što su reoperacije i infekcija rezistentnim sojevima bakterija.

Abstract

Surgical infections are the most common hospital infections, representing almost one-third of all hospital infections. The emergence of severe complications includes the stay of patients in intensive care units, reoperations, longer hospital stays, prolonged recovery of patients, aesthetic and functional defects, and a higher mortality rate. Wound infections represent a major public health problem and a financial burden for the healthcare system.

Surgical infection is a condition caused by the penetration and reproduction of microorganisms in the human body. The most common causes of surgical infections are non-specific pyogenic bacteria, gram-negative enteric bacteria, as well as numerous anaerobic bacteria. These bacterial strains are often resistant to a wide range and standard doses of antibiotics, making them difficult to treat conservatively.

Prevention of surgical infections includes a series of measures related to the preparation of the patient, medical staff, and environment for surgery as well as the patient's recovery. Preoperative preventive measures require patient hygiene and administration of adequate antibiotic prophylaxis.

Intraoperative measures are very complex and depend on the structure of the health institution where the operative procedure is undertaken.

Successful surgical wound care depends on knowledge and understanding of the physiology of normal wound healing, the type of surgery, the method of closure, and the optimal treatment of the resulting wound. Using this knowledge, physicians and nurses can provide a systematic and holistic estimation of patients and assess potential wound-related complications in that way. Collaboration between the physician and nursing team is essential to ensure appropriate wound care and optimal wound healing.

During the treatment of surgical wounds, it is necessary to properly treat the infected wound. The goal of surgical treatment of a wound is to create the most favorable biological conditions in the wound area in order to ensure its early healing, without aesthetic and functional damage. Successful treatment of a surgical infection for the patient means quick recovery from the operation, a shorter stay in the hospital, and avoiding complications such as reoperations and infection with resistant strains of bacteria.





Impaktirani očnjaci Impacted Canines

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Apstrakt

Impaktiran zub je zub koji nije iznikao, a čije nicanje je onemogućeno zbog: genetike, nedostatka prostora, prevremenog gubitka mlečnog prethodnika, promena u koštanom tkivu, nepravilnog položaja zuba, trauma ili različitih oboljenja u dečijem uzrastu. Najčešći impaktirani zubi su gornji i donji umnjaci i gornji očnjaci. Teorija vođenja: kako počinje erupcija stalnih centralnih sekutića, tako se korenovi mlečnih istoimenih zuba resorbuju. Stalni centralni sekutići migriraju kroz alveolarnu kost okluzalno i labijalno, iz tog razloga izbijaju labijalnije od mlečnog prethodnika. Pri ovom pomeranju, krunica neizniklog stalnog lateralnog sekutića smešta se distalno od korena centralnih sekutića, tako da u tom periodu nastaje mnogo više prostora.

Lateralni sekutići izbijaju okluzalno i labijalno, a njihovu putanju prate i stalni očnjaci. U ovoj fazi se javlja fiziološka diastema, nazvana „ružno pače“. Decenijama je kao primarni uzrok palatinalnog položaja gornjeg stalnog očnjaka istican dug i tortuozan put erupcije koji počinje blizu poda orbite. Smatralo se da ovaj zub mora mnogo više da „putuje“ pre izbijanja, nego ostali zubi, te se zato i „izgubi na putu“. Utvrđena je neobično velika prevalencija hipodoncije lateralnog sekutića kod pacijenata sa palatinalno impaktiranim očnjacima. U tim uslovima stalni očnjak nema distalnu stranu korena lateralnog sekutića, koji ga vodi na pravo mesto u zubnom nizu. U nedostatku lateralnog sekutića, očnjak nastavlja svoj put usmeren mezijalno i palatinalno, umesto okluzalno.

U opštoj populaciji, 93% lateralnih sekutića su normalnog oblika, a u populaciji sa impaktiranim očnjakom 52%. Veća učestalost impaktiranog gornjeg očnjaka u ženskoj populaciji može se objasniti činjenicom da je frekvencija manjih, klinastih lateralnih sekutića, kao i njihove hipodoncije, dva puta učestalija, nego u muškoj populaciji. Sudbina impaktiranog očnjaka većinom zavisi od sposobnosti i spretnosti ortodonta i oralnog hirurga da procene procenat uspešnosti izvlačenja očnjaka, primenom laganih sila u pravom smeru, nakon hirurškog eksponiranja zuba. Na osnovu iskustva dokazano je da se profesionalnom saradnjom oralnog hirurga i ortodonta postiču najbolji rezultati, jer udruživanjem njihovih znanja, veština i iskustva, pažljivo se planira i sprovodi biološki i funkcionalno najpotpunija terapija.

Abstract

An impacted tooth is a tooth that has not erupted, and whose eruption is prevented due to: genetics, lack of space, premature loss of the deciduous precursor, changes in the bone tissue, improper position of the tooth, trauma, or various diseases in childhood. The most commonly impacted teeth are upper and lower wisdom teeth and upper canines. Guiding theory: As the eruption of the permanent central incisors begins, the roots of the deciduous teeth of the same name are resorbed. The permanent central incisors migrate through the alveolar bone in the occlusal and labial way, for this reason, they erupt more labially than the deciduous predecessor. During this movement, the crown of the unerupted permanent lateral incisor is placed distally from the root of the central incisors, so that in that period many more teeth are formed.

Lateral incisors erupt in the occlusal and labial way, and permanent canines follow their path. In this phase, a physiological diastema occurs, called the “ugly duckling”. For decades, the primary cause of the palatal position of the upper permanent canine has been the long and tortuous path of eruption that begins near the floor of the orbit. It was believed that this tooth had to “move” much more before erupting than the other teeth, and that’s why it got “lost on the way”. An unusually high prevalence of hypodontia of the lateral incisor was found in patients with palatally impacted canines. In these conditions, the permanent canine does not have the distal side of the root of the lateral incisor, which guides it to the right place in the tooth row. In the absence of a lateral incisor, the canine continues its path directed in a mesial and palatal, instead of occlusal way.

In the general population, 93% of lateral incisors are of normal shape, and in the population with an impacted canine, 52%. The higher frequency of an impacted upper canine in the female population can be explained by the fact that the frequency of smaller, wedge-shaped lateral incisors, as well as their hypodontia, is twice as frequent as in the male population. The fate of an impacted canine mostly depends on the skill of the orthodontist and the oral surgeon, to estimate the success rate of canine extraction, by applying light forces in the right direction after surgical exposure of the teeth. Based on experience, it has been proven that the best results are achieved through the professional cooperation of the oral surgeon and the orthodontist, because by combining their knowledge, skills, and experience, careful planning and carrying out biologically and functionally the most complete therapy.

Neurodegenerativne bolesti CNS-a, medicinski tim, lekar – sestra

Neurodegenerative Diseases of the CNS, Medical Team, Doctor-Nurse

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Apstrakt

Multipla skleroza je bolest mozga i kičmene moždine, tj. centralnog nervnog sistema. Kod multiple skleroze imuni sistem napada zaštitni mijelinski omotač koji prekriva vlakna nerava i time uzrokuje probleme u komunikaciji između mozga i ostatka tela. U krajnjem slučaju, multipla skleroza može da izazove pogoršanje i trajno oštećenje nerava.

Znaci i simptomi multiple skleroze mogu da variraju i zavise od količine oštećenih nerava, ali i od toga koji su nervi pogođeni ovom bolešću. Neki ljudi oboleli od MS mogu da izgube sposobnost samostalnog hoda ili hoda uopšte, dok drugi mogu imati duge periode remisije, bez ikakvih novih simptoma. Ne postoji izlečenje kod ove bolesti. Međutim, uspešna dijagnoza multiple skleroze vodi do lečenja koje može da ubrza oporavak od napada, modifikuje tok bolesti i ublaži njene simptome. Znaci i simptomi multiple skleroze se mogu veoma razlikovati od osobe do osobe i u toku bolesti, u zavisnosti od mesta pogođenih nerava.

Uzrok multiple skleroze još nije poznat. Smatra se autoimunom bolešću, pri kojoj imuni sistem napada svoja sopstvena tkiva. Nije potpuno jasno zašto se multipla skleroza javlja kod nekih ljudi, a kod drugih ne. Pa ipak, pretpostavlja se da je u pitanju kombinacija genetskih faktora i faktora sredine u kojoj živimo. Dakle, faktori koji mogu doprineti razvoju ove bolesti su sledeći:

- starost – najčešće se javlja kod ljudi starosti 16 – 55 godina,
- pol – tri puta češće se javlja kod žena nego kod muškaraca,
- porodična istorija bolesti – ako neko od roditelja ili braće i sestara ima MS, rizik za oboljevanje je veći,
- određene infekcije i virusi,
- etnička pripadnost – češće obolevaju ljudi iz severne Evrope od ostalih,
- klima – veći je rizik u zemljama sa umerenom klimom poput Kanade, severnog dela SAD-a, Novog Zelanda, jugoistočne Australije, država Evrope,
- vitamin D – nizak nivo vitamina D i nedovoljno izlaganje suncu povećavaju rizik,
- određene autoimune bolesti – tiroidne bolesti, dijabetes tipa 1, inflamatorne bolesti creva doprinose većem riziku od oboljevanja.

Ne postoje specifični testovi za otkrivanje multiple skleroze. Umesto toga, dijagnoza multiple skleroze se obično postavlja uz otklanjanje sumnje na postojanje drugih bolesti sa istim ili sličnim znacima i simptomima. Dijagnoza se postavlja na osnovu lumbalne punkcije i analize likvora, merenja električnih aktiv-

Abstract

Multiple sclerosis is a disease of the brain and spinal cord, i.e. central nervous system. In multiple sclerosis, the immune system attacks the protective myelin sheath that covers the nerve fibers, causing communication problems between the brain and the rest of the body. In extreme cases, multiple sclerosis can cause worsening and permanent nerve damage.

The signs and symptoms of multiple sclerosis can vary and depend on the number of damaged nerves, and also on which nerves are affected by this disease. Some people with MS may lose the ability to walk independently or at all, while others may have long periods of remission without any new symptoms. There is no cure for this disease. However, a successful diagnosis of multiple sclerosis leads to treatment that can speed recovery from attacks, modify the course of the disease, and alleviate its symptoms. The signs and symptoms of multiple sclerosis can vary greatly from person to person and over the course of the disease depending on where the nerves are affected.

The cause of multiple sclerosis is not yet known. It is considered an autoimmune disease in which the immune system attacks its own tissues. It is not completely clear why multiple sclerosis occurs in some people and not in others. And yet, it is assumed to be a combination of genetic factors and environmental factors in which we live. So, the factors that can contribute to the development of this disease are the following:

- Age - most often occurs in people aged 16-55 years,
- Gender - occurs three times more often among women than men,
- Family history of the disease - if one of the parents or siblings has MS, the risk of the disease is higher,
- Certain infections and viruses,
- Ethnic affiliation - people from Northern Europe get sick more often than others,
- Climate - the risk is greater in countries with a moderate climate such as Canada, the northern part of the USA, New Zealand, southeastern Australia, European countries,
- Vitamin D – low levels of vitamin D and insufficient sun exposure increase the risk,
- Certain autoimmune diseases - thyroid diseases, type 1 diabetes, and inflammatory bowel diseases contribute to a higher risk of the disease.

There are no specific tests to detect multiple sclerosis. Instead, the diagnosis of multiple sclerosis is usually made after eliminating the possibilities of other diseases with the same or similar

nosti mozga – evocirani potencijali, CT (skener) mozga, MR – magnetne rezonance mozga. Cilj je da se dijagnoza postavi na vreme i pruži adekvatna terapija kako bi se propadanje mijelina zaustavilo. Posmatrajući deceniju ili dve unazad, terapija koja je bila dostupna su najpre bili kortikosteroidi, u svrhu sprečavanja zapaljenja i reo interferon. Danas je to značajno drugačije, sa ozbiljnim tendencijama da se obezbede terapijski protokoli kao u razvijenim zemljama.

Od dijagnoze, rane primene adekvatne terapije, praćenja i rehabilitacije, zavisi stepen invalidnosti i kvalitet života.

signs and symptoms. The diagnosis is made on the basis of lumbar puncture and analysis of cerebrospinal fluid, measurement of the electrical activity of the brain - evoked potentials, CT (scanner) of the brain, MR - magnetic resonance of the brain. The goal is to make a diagnosis in time and provide adequate therapy in order to stop the deterioration of myelin. Looking back a decade or two the therapy that was available was primarily corticosteroids to prevent inflammation and then interferon. Today it is significantly different with serious tendencies to provide therapeutic protocols as in developed countries.

The degree of disability and quality of life depend on the diagnosis, early application of adequate therapy, follow-up, and rehabilitation.



Dileme u terapijskoj primeni vitamina D

Dilemmas in the Therapeutic Use of Vitamin D

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Apstrakt

Uvod: Vitamin D je liposolubilni vitamin. Potrebe za njim se zadovoljavaju delom preko hrane iz koje se apsorbuje na nivou tankog creva, a delom se sintetise u koži iz holesterola, uz učešće ultravioletnog zračenja. Nezavisno od izvora, putem krvi se doprema do jetre gde se odigrava hidroksilacija u položaju 25 i dobija kalcidol. U bubrežima se kalcidol hidroksiliše u položaju 1 i tako nastaje aktivni oblik vitamina D kalcitriol koji ima odlike hormona. Osnovna uloga vitamina D je održavanje homeostaze kalcijuma i fosfora. Takođe, utiče i na ćelijsku diferencijaciju, spermatogenezu i imunogenezu.

Cilj: Utvrditi indikacije i najefikasnije oblike terapije vitaminom D.

Metod: Analizom savremene naučne literature i novih naučnih studija utvrditi prednost i nedostatke terapije vitaminom D.

Rezultati: Postoje brojni preparati vitamina D koji se međusobno razlikuju po farmaceutskom obliku, vrsti i količini vitamina D koji sadrže. Rahitis, osteoporoza, osteopenija, deficijencija i insuficijencija vitamina D su indikacije za primenu vitamina D. Rezultati ispitivanja o značaju njegove primene u prevenciji i lečenju virusnih infekcija su nedovoljno jasni.

Zaključak: Primena vitamina D mora biti racionalna. Poznavanje karakteristika preparata vitamina D koji koristimo, kao i efektivne doze vitamina D u odnosu na indikaciju, neophodno je poznavati za maksimalni terapijski efekat.

Abstract

Introduction: Vitamin D is a liposoluble vitamin. The need for it is met partly through food from which it is absorbed at the level of the small intestine, and partly it is synthesized in the skin from cholesterol with the participation of ultraviolet radiation. Regardless of the source, it reaches the liver through the blood, where hydroxylation takes place in position 25 and calcidiol is obtained. In the kidneys, calcidiol is hydroxylated in position 1 and thus the active form of vitamin D, calcitriol, is formed, which has the characteristics of a hormone. The main role of vitamin D is to maintain the homeostasis of calcium and phosphorus. It also affects cell differentiation, spermatogenesis, and immunogenesis.

Aims: To determine the indications and most effective forms of vitamin D therapy.

Method: Determine the advantages and disadvantages of vitamin D therapy by analyzing modern scientific literature and new scientific studies.

Results: There are numerous vitamin D preparations that differ from each other in terms of pharmaceutical form, type, and amount of vitamin D they contain. Rachitis, osteoporosis, osteopenia, deficiency, and insufficiency of vitamin D are indications for the use of vitamin D. The results of studies on the importance of its use in the prevention and treatment of viral infections are insufficiently clear.

Conclusion: The use of vitamin D must be rational. Knowing the characteristics of the vitamin D preparation we use, as well as the effective dose of vitamin D in relation to the indication, is necessary for maximum therapeutic effect.





Procesiranje i skladištenje krvnih komponenti u uslovima Kovid-19 pandemije

Processing and Storage of Blood Components in the Conditions of the COVID-19 Pandemic

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Apstrakt

Širenje virusa SARS-CoV-2 ima snažan uticaj na prikupljanje krvi, održavanje stabilnih zaliha svih krvnih komponenti i bezbednost same transfuzije. SARS-CoV-2 ima dug inkubacioni period (1–14 dana, u proseku 5–6 dana, najduže prijavljeno 24 dana) i kod velikog broja pacijenata izaziva asimptomatsku infekciju, što predstavlja veliki izazov u odabiru davaoca krvi i postizanju bezbedne transfuzije. U tom smislu, usvojene su precizne preporuke i mere predostrožnosti koje se odnose na kriterijume za privremeno odbijanje davalaca krvi u vreme Kovid-19 pandemije, organizaciju mobilnih ekipa i mesta kolekta, odlaganje medicinskog otpada, pregled potencijalnih davalaca i obavezno merenje telesne temperature, a iako nije dokazano prenošenje virusa kovid-19 putem krvi i krvnih komponenti, neke zemlje su uvele i obavezno NAT testiranje na SARS-CoV-2 u okviru skrining testiranja krvi. Takođe, preduzete su proaktivne mere poput privremenog skladištenja krvi u karantinu 14 dana nakon kolekcije, dok se posebna pažnja pridaje efikasnom upravljanju zalihama krvnih komponenti i razvijanju plana prikupljanja kako bi se izbegla pojava nestašice određenih krvnih komponenti ili njihovo isticanje iz roka.

Prvi korak u tom smislu jeste revidiranje mera u cilju poboljšane iskoristljivosti krvnih komponenti, odnosno smanjenja rasipanja zaliha, što se prevashodno odnosi na privremeno produženje roka trajanja krvnih komponenti. Produženje roka trajanja eritrocita (duže od 35 do 49 dana, što je definisano na nacionalnom nivou) treba razmotriti u što ranijoj fazi, jer kada se jednom pojavi nestašica eritrocita, oni će se izdavati mnogo pre isticanja krajnjeg roka skladištenja. Dosadašnja ispitivanja nisu pokazala značajne neželjene efekte transfuzije eritrocita sa produženim rokom skladištenja, pa je moguće razmotriti fleksibilnost uslova procesiranja krvi i skladištenja eritrocita, uz obaveznu unutrašnju validaciju procesa i kontrolu kvaliteta komponenti. Rok skladištenja koncentrata trombocita treba produžiti od 5 dana na 7, pa čak i 8 dana, uz obavezno bakteriološko testiranje ili patogenu inaktivaciju koncentrata. Druga opcija povećanja snabdevanja trombocitima u profilaktičke svrhe jeste redukcija doze trombocita deljenjem postojećih komponenti. Zamrznuta sveža plazma ima najduži rok skladištenja (do 3 godine), pa je održavanje stabilnih rezervi mnogo sigurnije nego za ćelijske komponente. Tečna plazma (nikada zamrznuta prethodno) ima rok skladištenja 7–40 dana i može se koristiti u uslovima smanjenog kapaciteta zamrzivača, deficita osoblja koje radi na procesiranju krvi ili za produkciju rekonvalescentne plazme.

Abstract

The spread of the COVID-19 virus has a strong impact on blood collection, maintaining stable supplies of all blood components, and the safety of the transfusion itself. SARS-CoV-2 has a long incubation period (1-14 days, 5-6 days on average, longest reported 24 days) and causes asymptomatic infection in a large number of patients, which represents a major challenge in selecting blood donors and achieving safe transfusion. In this sense, precise recommendations and precautionary measures have been adopted regarding the criteria for the temporary rejection of blood donors during the COVID-19 pandemic, the organization of mobile teams and collection points, the disposal of medical waste, the examination of potential donors, and the mandatory measurement of body temperature. Although transmission of the COVID-19 virus through blood and blood components has not been proven, some countries have also introduced mandatory NAT testing for SARS-CoV-2 as part of the screening blood test. Proactive measures have been taken as well, such as temporary storage of blood in quarantine for 14 days after collection, while special attention is paid to the efficient management of blood component supplies and the development of a collection plan, in order to avoid shortages of certain blood components or their expiration.

The first step in this regard is the revision of measures aimed at improving the usage of blood components, in other words, reducing the waste of stocks, which primarily refers to the temporary extension of the shelf life of blood components. Extending the shelf life of erythrocytes (longer than 35 to 49 days, which is defined at the national level) should be considered at the earliest possible stage because once a shortage of erythrocytes occurs, they will be issued long before the expiration date of storage. Previous studies have not shown significant side effects of erythrocyte transfusion with an extended storage period, so it is possible to consider the flexibility of blood processing and erythrocyte storage conditions with mandatory internal validation of the process and quality control of components. The shelf life of the platelet concentrate should be extended from 5 days to 7 or even 8 days, with mandatory bacteriological testing or pathogen inactivation of the concentrate. Another option to increase the supply of platelets for prophylactic purposes is to reduce the dose of platelets by dividing the existing components. Fresh frozen plasma has the longest shelf life (up to 3 years), so maintaining stable reserves is much safer than for cellular components. Liquid plasma (never previously frozen) has a shelf life of 7-40 days and can be used in conditions of reduced freezer capacity, shortage of the hospital staff working on blood processing, or for the production of convalescent plasma.



Patogena inaktivacija plazme i trombocita omogućava 3–6 log redukciju SARS-CoV-2 i MERS-CoV. Odluku o uvođenju neke od metoda patogene inaktivacije treba doneti uzimajući u obzir troškove i resurse potrebne za implementaciju. Za zemlje koje nemaju patogenu inaktivaciju već u rutinskoj praksi, njeno brzo uvođenje je veliki zadatak. Za sada se čini da je rizik transmisije SARS-CoV-2 putem krvi jako nizak, mada će se naše razumevanje virusa i ponašanje tokom pandemije vremenom poboljšavati. U tom smislu treba razmišljati i o patogenoj inaktivaciji rekonvalescentne plazme.

Pathogenic inactivation of plasma and platelets enables a 3-6 log reduction of SARS-CoV-2 and MERS-CoV. The decision to introduce one of the pathogenic inactivation methods should be made taking into account the costs and resources required for implementation. For countries that do not already have pathogen inactivation in routine practice, its rapid introduction is a major task. For now, the risk of bloodborne transmission of SARS-CoV-2 appears to be very low, although our understanding of the virus and pandemic behavior will improve over time. Therefore, we should also think about the pathogenic inactivation of convalescent plasma.



Procena i tretman hroničnog bola u palijativnom zbrinjavanju

Assessment and Treatment of Chronic Pain in Palliative Care

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Apstrakt

Uvod: Bol je jedan od najvažnijih javnozdravstvenih problema, kako u svetu, tako i kod nas. Uprkos silnom napretku nauke, novim tehnološkim otkrićima i farmakološkim pravcima, bol je i dalje svetski problem. Prema patofiziološkom mehanizmu deli se na: nociceptivni bol – somatski ili visceralni bol, neuropatski bol, mešoviti bol. Prema vremenskom obrascu: akutni bol, hronični bol, probojni (incidentni i epizodni).

Cilj rada: Utvrditi subjektivne doživljaje bola, utvrditi faktore koji utiču na smanjenje, odnosno, pojačanje bola kod obolelih, utvrditi uticaj bola na život obolelih.

Metod rada: Istraživanje je sprovedeno u Opštoj bolnici Požarevac po tipu studije preseka, anketiranjem pacijenata, u periodu od 10. 07. 2020. do 25. 07. 2020. Uzorak u ovom istraživanju činilo je 30 pacijenata, koji su u periodu od 10. 07. 2020. do 25. 07. 2020. hospitalizovani na onkološkom odeljenju.

Rezultati rada: Preko dve trećine pacijenata boluje od malignih bolesti duže od dve godine. Lokalizacija bola je vezana za lokalizaciju tumora. Oboleli najčešće bol opisuju kao iritirajući, uznemiravajući i u vidu trnjenja i žarenja, koji se javlja stalno, tokom dana, noći ili neočekivano.

Zaključak: Kod jedne petine obolelih, u kontroli bola ne pomažu ni farmakološka, ni nefarmakološka sredstva. Najčešći faktori koji utiču na pojačavanje bola su promena položaja i stres. Faktori koji utiču na smanjenje bola su lekovi, promena položaja i odmor. Bol utiče na svakodnevnu aktivnost, raspoloženje, pokretljivost, apetit i spavanje obolelih.

Abstract

Introduction: Pain is one of the most important public health problems both in the world and in our country. Despite the great progress in science, new technological discoveries, and pharmacological directions, pain is still a worldwide problem. According to the pathophysiological mechanism, it is divided into nociceptive pain - somatic or visceral pain, neuropathic pain, and mixed pain. By time pattern: acute pain, chronic pain, breakthrough (incidental and episodic)

Aims of the paper: To determine the subjective experiences of pain, to determine the factors that influence the reduction or increase of pain in patients, and to determine the impact of pain on the life of patients.

Methods: The research was conducted in the General Hospital of Požarevac according to the type of cross-sectional study, by surveying patients, in the period from the 10th of July, 2020 until the 25th of July 2020. The sample in this research consisted of 30 patients, hospitalized in the oncology department in the period from the 10th of July 2020 until the 25th of July 2020.

Results: Over two-thirds of patients suffer from malignant diseases for more than two years. The location of the pain is related to the location of the tumor. Sufferers most often describe the pain as irritating, disturbing, and in the form of tingling and burning, which occurs constantly, during the day, night, or unexpectedly.

Conclusion: In one-fifth of patients, neither pharmacological nor non-pharmacological means help in pain control. The most common factors that influence pain intensification are change of position and stress. Factors that affect pain reduction include medication, changing position, and rest. Pain affects the daily activity, mood, mobility, appetite, and sleep of the sick.



Rehabilitacija bolesnika sa prelomom kuka

Rehabilitation of Patients with Hip Fractures

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Apstrakt

Kuk je kuglasti zglob između karlice i gornjeg dela butne kosti. Kraj butne kosti je zaobljen. Karlica i butna kost su spojene ligamentima. Najčešća povreda je naprsnuće mišića spojenog sa bokom kuka. Prelomi kostiju karlice, kuka i natkolenice su retke povrede u sportu, a kada se dese, sportske aktivnosti se prekidaju (prelomi se javljaju u moto-sportu, automobilizmu i u zimskim sportovima).

Prelome karličnog dela tela treba posmatrati kao: a) lokalizaciju preloma prsten-pojas, (komplikacije su sa funkcionalnim posledicama) b) parcijalne frakture koje ne prekidaju kontinuitet karličnog pojasa i po pravilu nisu teške c) prelome koji zahvataju acetabulum i za posledicu imaju poremećaj funkcije kuka. Lečenje može biti konzervativno i operativno.

Konzervativno lečenje zahteva sledeće tretmane: a) mirovanje od 3 do 9 meseci b) suzbijanje bola analgeticima i antiinflamatornim sredstvima c) direktnu aplikaciju analgetika u bolno mesto d) upotrebu kortikostereoida e) dejstvo elektroterapije u cilju suzbijanja bola g) aplikaciju ultrazvučne terapije h) hidroterapiju i) izometrijske i izotoničke vežbe j) korekciju statike k) rendgensko zračenje.

Pojava recidiva direktno ukazuje na potrebu hiruškog zahvata.

Abstract

The hip is a round joint between the pelvis and the upper part of the thigh bone. The end of the thigh bone is rounded. The pelvis and thigh bone are connected by ligaments. The most common injuries are muscle rupture connected to the side of the hip. Fractures of the bones of the pelvis, hip, and upper leg are rare injuries in sports, and when they occur, sports activities are interrupted (fractures occur in motorsports, motoring, and winter sports).

Fractures of the pelvic part of the body should be viewed as: a) localization of the ring-girdle fracture, complications with functional consequences, b) partial fractures that do not interrupt the continuity of the pelvic girdle and, as a rule, are not severe, c) fractures that involve the acetabulum and result in functional impairment hip. Treatment can be conservative and operative.

Conservative treatment requires the following treatments: a) rest from 3 to 9 months, b) suppression of pain with analgesics and anti-inflammatory agents, c) direct application of analgesics to the painful area, d) use of corticosteroids, e) the effect of electrotherapy in order to suppress pain, f) application ultrasound therapy, g) hydrotherapy, h) isometric and isotonic exercises, i) static correction, g) X-ray radiation.

The occurrence of relapse directly indicates the need for surgery.





Inkompatibilnost lekova sa rastvorima i drugim lekovima pri aplikaciji

Incompatibility of Drugs with Solutions and Other Medicines during Application

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Clinical Pharmacology

Apstrakt

Inkompatibilnost lekova predstavlja reakciju koja se javlja između leka i rastvora ili drugog leka. Ukoliko se inkompatibilne lekovite supstance međusobno pomešaju, njihovi sastojci stupaju u međusobne fizičke i/ili hemijske interakcije. Inkompatibilnost zauzima značajno mesto među greškama u aplikaciji lekova. Neželjena dejstva koja nastaju usled ovakvih interakcija su relativno retka, ali se mogu dešavati, dok posledice mogu biti i prikrivene. Usled inkompatibilnosti može doći do gubitka ili smanjenja biološke aktivnosti leka, do povećanja njegove toksičnosti, ili se može desiti neki drugi neželjeni efekat. Inkompatibilnost u toku intravenske aplikacije leka može nastati ako se lek doda u infuzioni rastvor, jedan ili više, ukoliko se desi mešanje lekova za parenteralnu primenu u istoj brizgalici ili se lek da kroz sistem za infuziju kroz koji je prethodno išao neki drugi rastvor ili lek. Inkompatibilnost može da nastane i kod ostalih rastvora lekova, kao npr. kod rastvora za peritonealnu dijalizu, rastvora za inhalacionu primenu i rastvora za enteralnu ishranu.

Inkompatibilnost može nastati kroz nekoliko procesa između supstanci; precipitacija, jonske reakcije, stvaranje gasa i denaturacija bioloških molekula. Pre mešanja lekova potrebno je poznavanje kompatibilnosti. Referentni tekstovi mogu pružiti informacije, ali su podaci često nedostupni, kada su u pitanju novi lekovi. Ako se lekovi ipak mešaju pre primene, smešu treba pregledati u smislu da li ima taloga, zamućenja ili promena u boji, ukoliko dođe do fizički vidljivih promena. Nekada do njih ne dolazi, što otežava sprečavanje neželjenih događaja. Više je verovatno da će se problemi inkompatibilnosti pojaviti kada se male koncentrovane količine mešaju u špricu, a ne u većoj zapremini u boci za infuziju, zbog viših međusobnih koncentracija leka i potencijalno većih promena PH vrednosti u koncentrisanijem rastvoru. Odsustvo bilo kakve vidljive promene u rastvoru, pri mešanju, ne isključuje automatski degradaciju jedne ili obe komponente.

Postoji nekoliko mehanizama kojima se dešavaju interakcije koje dovode do inkompatibilnosti. To su taloženje ili precipitacija leka u vidu koncentrovanog rastvora za injekciju, kada se razblaži vodom ili fiziološkim rastvorom, precipitacija lekova usled promene PH vrednosti pri mešanju.

Rastvorljivost u vodi bilo kog leka zavisi od jonizacije molekula. Za molekul leka koji deluje kao akceptor protona (Lowry-Bronsted baza) jonizacija se postiže formulisanjem u rastvoru

Abstract

Drug incompatibility is a reaction that occurs between a drug and a solution or another drug. If incompatible medicinal substances are mixed with each other, their components enter into mutual physical and/or chemical interactions. Incompatibility occupies a significant place among errors in drug application. Unwanted effects resulting from such interactions are relatively rare, but they can happen, while the consequences can be hidden. Due to incompatibility, the biological activity of the drug may be lost or reduced, its toxicity may increase, or some other side effect may occur. Incompatibility during the intravenous application of the drug can occur if the drug is added to the infusion solution, one or more, if drugs for parenteral administration are mixed in the same syringe or if the drug is given through an infusion system through which another solution or drug previously passed. Incompatibility can also occur with other drug solutions, such as in solutions for peritoneal dialysis, solutions for inhalation, and solutions for enteral nutrition.

It can occur through several processes between substances; precipitation, ion reactions, gas formation, and denaturation of biological molecules. Before mixing drugs, it is necessary to know the compatibility. Reference texts can provide information, but data are often unavailable when it comes to new drugs. If the drugs are still mixed before the application, the mixture should be inspected for sediment, turbidity, or color changes, if any physically visible changes occur. Sometimes they do not occur, which makes it difficult to prevent unwanted events. Incompatibility issues are more likely to occur when small concentrated amounts are mixed in a syringe rather than in a larger volume in an infusion bottle, due to the higher mutual drug concentrations and potentially greater pH changes in the more concentrated solution. The absence of any visible change in the solution upon mixing does not automatically exclude degradation of one or both components.

There are several mechanisms by which the interactions that lead to incompatibility occur. These are the deposition or precipitation of the drug in the form of a concentrated solution for injection when diluted with water or saline solution, and the precipitation of drugs due to a change in the pH value during mixing.

The water solubility of any drug depends on the ionization of the molecule. For a drug molecule that acts as a proton acceptor (Lowry-Bronsted base), ionization is achieved by formulating



niskog PH, obično kao hidroklorid ili hidrogensulfatna so. Suprotno tome, za molekule leka koji mogu izgubiti proton ili jon vodonika (Lowry-Bronstedova kiselina – obično slaba organska kiselina), jonizacija se postiže formulacijom u rastvoru visokog PH, obično kao natrijumova ili kalijumova so (npr. benzilpenicilin natrijum). Svaka promena PH prema drugom kraju PH skale će smanjiti udeo jonizovanog i nejonizovanog leka u rastvoru i stoga će smanjiti rastvorljivost leka u vodi.

Jonske reakcije formiraju nerastvorljive supstance. Soli monovalentnih katjona, kao što su natrijum i kalijum, generalno su rastvorljivije od soli divalentnih katjona, kao što su kalcijum i magnezijum. Mešanje rastvora koji sadrže jone kalcijuma ili magnezijuma ima značajan rizik od formiranja nerastvorljive soli kalcijuma ili magnezijuma. Mešanje magnezijum-sulfata 50% i kalcijum-hlorida 10% dovodi do taloženja nerastvorljivog kalcijum-sulfata. Takođe treba izbegavati mešanje lekovitih soli kalcijuma i u manjoj meri magnezijuma sa fosfatima, karbonatima, bikarbonatima, tartratima ili sulfatima.

Biološke supstance, uključujući krvne proizvode i insulin, sklone su denaturaciji kada su izložene varijacijama PH i osmolalnosti. Iako postoje objavljeni podaci o kompatibilnosti za insuline i neke krvne proizvode, za biološke lekove kao što su infliksimab, interferoni i rekombinantni faktori koagulacije, ne postoje takvi podaci i ne preporučuje se mešanje sa drugim lekovima.

Dodavanje kiselog rastvora leka u rastvor koji sadrži karbonat ili bikarbonat, može dovesti do stvaranja gasa ugljen-dioksida. Međutim, stvaranje gasova je normalan deo rastvaranja nekih lekova, posebno ceftazidima.

Inkompatibilnost može da nastane i kod ostalih rastvora lekova, kao npr. kod rastvora za peritonealnu dijalizu, rastvora za inhalacionu primenu i rastvora za enteralnu ishranu.

Uopšte uzev, najbolje je da se mešanje rastvora, kad god to nije neophodno, izbegne. Ako kliničke okolnosti ipak diktiraju mešanje parenteralnih lekovitih preparata, bezbednost takvog načina aplikacije može da se uveća pridržavanjem opštih uputstava o kompatibilnosti lekova i korišćenjem specifičnih podataka.

it in a low pH solution, usually as a hydrochloride or hydrogen sulfate salt. Conversely, for a drug molecule that can lose a proton or a hydrogen ion (Lowry-Bronsted acid - usually a weak organic acid), ionization is achieved by formulation in a high pH solution, usually as a sodium or potassium salt (e.g. benzylpenicillin sodium). Any change in pH towards the other end of the pH scale will decrease the proportion of the ionized and non-ionized drugs in the solution and therefore will decrease the solubility of the drug in water.

Ionic reactions form insoluble substances. Salts of monovalent cations, such as sodium and potassium, are generally more soluble than salts of divalent cations, such as calcium and magnesium. Mixing solutions containing calcium or magnesium ions have a significant risk of forming insoluble calcium or magnesium salts. Mixing magnesium sulfate 50% and calcium chloride 10% leads to the precipitation of insoluble calcium sulfate. Mixing medicinal salts of calcium and, to a lesser extent, magnesium with phosphates, carbonates, bicarbonates, tartrates or sulfates should also be avoided.

Biological substances including blood products and insulin are prone to denaturation when exposed to variations in pH and osmolality. If there are published data on compatibility for insulins and some blood products, for biological drugs such as infliximab, interferons, and recombinant coagulation factors there is no such data. Mixing with other drugs is not recommended.

Adding an acidic solution of a drug to a solution containing carbonate or bicarbonate may result in the formation of carbon dioxide gas. However, gas formation is a normal part of dissolving some drugs, especially ceftazidime.

Incompatibility can also occur with other drug solutions, such as e.g. in solutions for peritoneal dialysis, solutions for inhalation, and solutions for enteral nutrition.

In general, it is best to avoid mixing the solution whenever it is not necessary. If clinical circumstances still dictate the mixing of parenteral medicinal preparations, the safety of such application can be increased by following general instructions on drug compatibility and using specific data.



Zaštita seksualnog i reproduktivnog zdravlja u adolescenciji

Protection of Sexual and Reproductive Health in Adolescence

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Apstrakt

Svetska zdravstvena organizacija (SZO) definiše adolescenciju kao period između 10. i 19. godine života i predstavlja prelazni životni period koji se nastavlja na detinjstvo – počinje prvim znacima puberteta, a završava se kada osoba postigne odgovarajući nivo zrelosti i nezavisnosti. Adolescenciju, pored prepoznatljivih promena na telu, karakterišu i promene u načinu razmišljanja i odnosu prema okolini. Adolescenti neretko imaju osećaj neograničenosti, neranjivosti i impulsivnosti koje, usled nedovoljne informisanosti, najčešće dovode do nepromišljenog i rizičnog ponašanja.

Prisutne promene u društvu, ubrzan razvoj telekomunikacija i društvenih mreža, kao i gubitak porodičnih vrednosti, značajno doprinose porastu rizičnog ponašanja adolescenata koja mogu da ostave brojne posledice na reproduktivno zdravlje.

Reproduktivno zdravlje je definisano kao „stanje potpunog fizičkog, mentalnog i socijalnog blagostanja, a ne samo odsustvo bolesti ili slabosti, u svim pitanjima koja se odnose na reproduktivni sistem i njegove funkcije i procese“.

Zadatak zdravstvenog sistema je da prilagodi programe seksualnog i reproduktivnog zdravlja potrebama adolescenata, sa ciljem da im pomogne u donošenju informisanih odluka i izbora, što podrazumeva omogućavanje pristupa sveobuhvatnom seksualnom obrazovanju, prevenciju, dijagnostiku i lečenje polno prenosivih infekcija, kao i savetovanje o planiranju porodice.

Abstract

The World Health Organization (WHO) defines adolescence as the period between 10 and 19 years of age and is a transitional life period after childhood - it begins with the first signs of puberty, and ends when a person reaches an appropriate level of maturity and independence. Adolescence, in addition to recognizable changes in the body, is also characterized by changes in the way of thinking and attitude towards the environment. Adolescents often have a feeling of limitlessness, invulnerability, and impulsiveness, which, due to insufficient information, most often lead to reckless and risky behavior.

Current changes in society, accelerating the development of telecommunications and social media, as well as the loss of family values, significantly contribute to the increase in risky behavior among adolescents, which can have numerous consequences on reproductive health.

Reproductive health is defined as “a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and processes.”

The task of the health system is to adapt sexual and reproductive health programs and services to the needs of adolescents with the aim of helping them make informed decisions and choices, which includes providing access to comprehensive sexual education, prevention, diagnosis, and treatment of sexually transmitted infections, as well as providing advice on family planning.

Организационен модел за комплексни терапевтични здравни грижи при пациенти след операция на щитовидната жлеза

Organizational Model of Complex Therapeutic Health Care for Patients after Thyroid Gland Surgery

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Апстракт

Заболяванията на щитовидната жлеза представляват глобален медицински и социален проблем, който засяга над 1,5 млрд. души в света. В България около 10% от населението страда от изяви форми, а засегнатите с неизявените субклинични форми стигат до 20%. Те варират според пола и възрастта. При жените болестите на щитовидната жлеза се срещат няколко пъти по-често, освен това с възрастта честотата се увеличава. След 60-65 г. пациентите са 25-30% в тази възрастова група

Цел на настоящия доклад е да се създаде организационен модел за комплексни терапевтични здравни грижи при пациенти след операция на щитовидната жлеза, чрез индивидуален подход към болния, съобразен с възрастта на пациента, с придружаващите го заболявания, като се определи минимума от изисквания за осигуряване на качествени медицински грижи за оперираните пациенти с тиреоидни заболявания;

Материали и методи. Чрез документален метод е направен сравнителен и алтернативен анализ, като са събрани и обработени данни на Националния статистически институт (НСИ), както и анализ на данните от медицинската документация и са направени съответните изводи и препоръки.

Резултати и обсъждане. Организационният модел за комплексни здравни грижи при пациенти след операция на щитовидната жлеза трябва да позволява на медицинските специалисти да осъществяват адекватни здравни грижи за оперираните с тиреоидни заболявания пациенти, да извършват своите автономни функции в съответствие със спешността, интензивността или оперативната процедура на пациента и последващото лечение. Индивидуалният подход към пациента се реализира чрез работа на медицинските сестри с план за сестрински грижи и досие на пациента, в което се документира здравословния му проблем.

Abstract

Thyroid disease is a global medical and social problem affecting more than 1.5 billion people worldwide. In Bulgaria, about 10% of the population suffers from overt forms, and 20% suffer from excessively expressed subclinical forms. They differ depending on gender and age. In women, thyroid disease is several times more common, and the incidence increases with age. After 60-65 years, in this age group of patients, it is 25-30%.

The aim of this report is to create an organizational model for complex therapeutic health care of patients after thyroid surgery, through an individual approach to the patient, in accordance with the age of the patient, with accompanying diseases, determination of the minimum conditions for providing quality medical care to operated patients with thyroid gland diseases.

Materials and methods. A comparative and alternative analysis was done using the documentary method, how the data of the National Institute of Statistics (NSI) were collected and processed, as well as the analysis of data from medical records and relevant conclusions and recommendations.

Results and discussion. The organizational model of complex health care for patients after thyroid surgery should enable health workers to provide adequate health care to patients who had an operation of thyroid disease, and to perform their autonomous functions in accordance with the urgency, intensity, or operation of a patient and subsequent treatment. An individual approach to the patient is achieved through the work of nurses with a nursing care plan and a patient record documenting his health problem.

Mesto aparata po Ilizarovu u ortopedskoj hirurgiji i traumatologiji. Prošlost, sadašnjost i budućnost

Place of Apparatus According to Ilizarov in Orthopedic Surgery and Traumatology. Past, Present, and Future

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Apstrakt

Ilizarov aparat je dobio naziv po doktoru Gavrilu Abramoviču Ilizarovu. Rođen je u Sovjetskom Savezu 1921. godine, a upisao je Medicinski fakultet na Krimu sa 18 godina. Nakon diplomiranja 1944. god. dobija posao porodičnog lekara u provinciji Kurgan u jugoistočnom Sibiru. S obzirom na udaljenost ove oblasti, Ilizarov je uglavnom radio sam i bio je osposobljen za izvođenje mnogih hiruških procedura.

Prvo se zainteresovao za ortopediju i rekonstrukciju kosti, jer su veliki broj njegovih pacijenata predstavljali vojnici koji su se vraćali sa frontova u Drugom svetskom ratu. Mnogi od ovih pacijenata su zadobili teške prelome i morali su da pretrpe dugotrajno lečenje. Gips i skeletna trakcija bile su jedine metode koje su opšte korišćene. Ilizarov je verovao da postoje i drugi načini lečenja preloma, te je svoju karijeru posvetio ortopediji. Ilizarov metod je odlična alternativa od više konvencionalnih metoda, naročito u slučajevima teške kontaminacije rana i u slučajevima gubitka mekog tkiva i kostiju. Tretman gubitka kostiju, kao rezultat akutne traume, tradicionalno je bio i ostao složen hirurški problem.

U pokušaju da izbegnemo probleme povezane sa deficitom graft-materijala, kao i transfera slobodnog tkiva, unutrašnji transport kostiju je tehnika koja je bila uspešan metod za rekonstrukciju koštane mase kod akutnog gubitka kostiju. Osim toga, Ilizarov aparat može postići stabilnost, čak i u slučajevima koštane kominucije, kada interna fiksacija ne može učiniti ništa značajnije. Nesrastanje dugih kostiju je često povezano sa značajnim gubitkom funkcije pogođenog ekstremiteta, krutosti u zglobovima, atrofijom mišića, difuznom osteopenijom, pa čak i amputacijom ekstremiteta ili sistemskim manifestacijama u slučaju infekcije. Indikacije za odgovarajuću metodu lečenja su često nejasne. U složenom polju nesrastanja kostiju, intramedularna fiksacija je poželjna u odloženoj (produženoj) konsolidaciji i hipertrofičkim nesrastanjima, bez ugaonih defekata ili hipometrije, dok je metoda Ilizarov više indikovana kod atrofičnih nesrastanja sa ugaonim defektima i hipometrijom.

Okvir prstenova aparata stabilizuje i podržava osnovnu kost, uz pomoć transfiksacionih igala i poluklinova. Stabilnost aparata se povećava sa uvećanjem promera igle i sile napregnutosti, korišćenjem više igala po prstenu, postavkom igala sa suprotne strane prstena ili u različitim ravnima. Povećanjem uglova ukrštanja igala do 90 stepeni, dobija se maksimalna stabilnost aparata, dok njihovo smanjenje ispod 60 stepeni omogućava klizanje

Abstract

The Ilizarov apparatus was named after Doctor Gavril Abramovich Ilizarov. He was born in the Soviet Union in 1921. and he entered the Faculty of Medicine in Crimea at the age of 18. After graduating in 1944 he gets a job as a family doctor in the Kurgan province in Southeast Siberia. Due to the remoteness of this area, Ilizarov mostly worked alone and was trained to perform many surgical procedures.

He first became interested in orthopedics and bone reconstruction because a large number of his patients were soldiers returning from the fronts of World War II. Many of these patients sustained severe fractures and had to undergo long-term treatment. Plaster and skeletal traction were the only methods commonly used. Ilizarov believed that there are other ways to treat fractures and dedicated his career to orthopedics. Ilizarov's method is an excellent alternative to more conventional methods, especially in cases of severe contamination of wounds and in cases of soft tissue and bone loss. Treatment of bone loss as a result of acute trauma has traditionally been and remains a complex surgical problem.

In an attempt to avoid the problems associated with a deficit of graft material as well as free tissue transfer, internal bone transport is a technique that has been a successful method for bone reconstruction in acute bone loss. In addition, the Ilizarov device can achieve stability even in cases of comminuted fracture when internal fixation cannot do anything significant. Nonunion of long bones is often associated with significant loss of function of the affected limb, joint stiffness, muscle atrophy, diffuse osteopenia, and even limb amputation or systemic manifestations in case of infection. Indications for the appropriate treatment method are often unclear. In the complex field of bone nonunion, intramedullary fixation is preferred in delayed (prolonged) consolidation and hypertrophic nonunion without angular defects or hysometry, while this method is more indicated in atrophic nonunion with angular defects and hysometry.

The frame of the apparatus rings stabilizes and supports the underlying bone with the help of transfixing pins and half wedges. The stability of the apparatus increases with the increase of needle diameter and tension force, using more needles per ring, and setting the needles on the opposite side of the ring or in different planes. By increasing the crossing angles of the needles up to 90 degrees, the maximum stability of the apparatus is obtained,

kostiju, koje možemo sprečiti i upotrebom igala sa olivom ili poluklinova. Kod pacijenata koji su doživeli multiple prelome ili politraumu, očuvanje normalne funkcije ekstremiteta sa minimalnim komplikacijama je najveći prioritet. Uspostavljanje stabilnog ekstremiteta, jednake dužine, bez deformacija, sa dobrom mišićnom funkcijom, dobrom pokretljivošću zglobova i minimalnim rizikom od pojave infekcije, predstavljaju principe koji su osnove primene ove tehnike. Takođe je bitno da vreme onesposobljenosti pacijenata bude minimalno i da se uradi što manje hiruških intervencija. U većini slučajeva, spoljna fiksacijska tehnika Ilizarova omogućuje ostvarenje ovih principa.

Ruske studije Popove i Khodesevicha 1984. godine, kao što je navedeno od Ilizarova i Rozbruha 2007. godine, pokazale su da se korišćenjem ove metode smanjuje vreme lečenja, troškovi lečenja i invalidnine. Kada se koristi za lečenje fraktura i posttraumatskih nesraslih preloma, primarna nesposobnost stanovništva se smanjila tri do pet puta, a osam puta u odnosu na lečenje otvorenih preloma metodama konvencionalnog pristupa.

while their reduction below 60 degrees allows the bones to slide, which can also be prevented by using olive needles or half wedges. In patients who have experienced multiple fractures or polytrauma, preservation of normal limb function with minimal complications is the highest priority. Establishing a stable limb, of equal length, without deformations, with good muscle function, good mobility of the joints, and minimal risk of infection are the principles that are the basis of this technique. It is also important that the time of incapacitation of patients is minimal and that as few surgical interventions are performed as possible. In most cases, the external fixation technique of Ilizarov enables the realization of these principles.

Russian studies by Popov and Khodesevich in 1984, as stated by Ilizarov and Rozbruch 2007, have shown that using this method reduces treatment time, costs, and disability benefits. When used for the treatment of fractures and post-traumatic non-union fractures, the primary disability of the population decreased three to five times, and eight times compared to the treatment of open fractures with the methods of the conventional approach.



Prelom petne kosti – Sanders tip III, fiksiran angularnom pločom

Heel Bone Fracture - Sanders Type III, Fixed with an Angular Panel

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Apstrakt

Kalkaneus je tarzalna kost koja ima ulogu prenošenja telesne težine sa potkolenice, preko skočnog zgloba, na prednji deo stopala, do prstiju. On učestvuje u formiranju spoljašnjeg i unutrašnjeg uzdužnog svoda stopala koji ima veliku ulogu u hod i transferu težine.

Prelomi kalkaneusa najčešće nastaju skokom – padom sa visine ili ređe, u saobraćaju. Mogu biti ekstraartikularni i intraartikularni, tad nastaje narušavanje celine zglobnih površina, nastaje deformitet i nemoć stopala.

Operativno lečenje ima za cilj da se uradi dobra repozicija fragmenata, obnove zglobne površine i uradi osteosinteza. Za osteosintezu se upotrebljava ploča, Kirschnerove igle, a najčešće koristimo angularnu ploču. Ona ima formu i oblik kalkaneusa, ima veliki broj rupa za postavljanje šrafova i tako pruža velike mogućnosti da se šrafovi postave u zdravo koštano tkivo i tako omogućuje stabilnost osteosinteze.

Cilj rada je da prikazemo kominutivni prelom kalkaneusa (Sanders tip III) i njegovu osteosintezu angularnom pločom.

Abstract

The calcaneus is a tarsal bone that has the role of transferring the body's weight, from the lower leg through the ankle joint to the front part of the foot to the toes. It participates in the formation of the outer and inner longitudinal arch of the foot, which plays a major role in walking and weight transfer.

Fractures of the calcaneus are most often caused by jumping - falling from a height or, less often, in traffic. They can be extra-articular and intra-articular, then there is a break of the entire articular surfaces, deformity, and weakness of the foot.

Operative treatment aims to perform a good reposition of the fragment, restore the articular surfaces and perform osteosynthesis. For osteosynthesis, a plate and Kirschner pins are used, and most often we use an angular plate. It has the shape and form of the calcaneus and it has a large number of holes for the placement of screws and thus provides great opportunities to place the screws in healthy bone tissue and thus enable the stability of osteosynthesis.

The aim of the paper is to present a comminuted fracture of the calcaneus (Sanders type III) and its osteosynthesis with an angular plate.