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Internacionalni medicinski časopis iz oblasti biomedicinskih nauka International medical journal in the field of biomedical sciences
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EDITORIJAL EDITORIAL

Reč urednika
Editor's note

Poštovane koleginice i kolege, dragi prijatelji,

U deset godina svog postojanja Nacionalna asocijacija udruženja zdravstvenih radnika Srbije je organizovala mnoštvo stručnih skupova, simpozijuma, kongresa koji su okupili najeminentnije stručnjake iz različitih oblasti medicine iz Srbije, regiona i sveta. Pred nama je XVII Kongres Asocijacije koji se tradionacionalno održava u Vrnjačkoj Banji, a koji će po broju prijavljenih radova za usmenu i poster prezentaciju, kao i po ukupnom broju učesnika nadmašiti sve prethodne. Ovaj broj Medicinske reči posvećen je upravo XVII Kongresu NAUZRS i predstavlja Zbornik sažetaka radova prijavljenih za edukativne seminare po sekcijama.

Iako je Covid-19 pandemija mnogo toga promenila u našim životima u protekle tri godine, stručni sastanci predstavljaju i dalje platformu razmene znanja i iskustava, gde svi mi moramo nastaviti da stičemo nova znanja i razmenjujemo svoja iskustva. Upravo iz tog razloga Medicinska reč po četvrti put objavljuje sažetke sa kongresa u organizaciji NAUZRS, koji je osnivač i izdavač časopisa. Radovi su posvećeni savremenim temama koje su od važnosti za promociju zdravlja, lečenje bolesnih i povređenih, prevenciju širenja zaraznih bolesti, ulogu medicinskih sestara i tehničara u eri moderne medicine.

Svojim aktivnim učešćem kroz predavanja, poster prezentacije i diskusije svi zajedno ćemo doprineti razvoju i afirmaciji novih ideja u medicine u vremenima koja su pred nama.

Dear associates and friends,

In the previous ten years of its existence, the National Association of Healthcare Workers of Serbia has organized many professional meetings, symposia, and congresses that have brought together the most eminent experts from various fields of medicine from Serbia, the region, and the world. There is the XVII Congress of the Association in front of us, which is traditionally held in Vrnjačka Banja, and which will surpass all the previous ones in terms of the number of submitted works for oral and poster presentation, as well as the total number of participants. This issue of Medical Word is dedicated to the XVII Congress of the National Association of Health Workers of Serbia, and it is a collection of abstracts of papers submitted for educational seminars by section.

Although the Covid-19 pandemic has changed a lot in our lives in the past three years, expert meetings are still a platform for exchanging knowledge and experiences, where we must all continue to acquire new knowledge and share our experiences. It is the reason Medical Word for the fourth time publishes summaries from the congress organized by the National Association of Health Workers of Serbia, which is the founder and publisher of the journal. The papers are devoted to contemporary topics that are important for health promotion, treatment of the sick and injured, prevention of the spread of infectious diseases, and the role of nurses and technicians in the era of modern medicine.

With our active participation through lectures, poster presentations, and discussions, we will all contribute to the development and affirmation of new ideas in medicine in the times ahead.

Započeli smo četvrtu godinu uspešnog rada *Medicinske reči* zahvaljujući svima Vama koji ste deo našeg tima. Hvala Vam na trudu i poverenju, nadamo se uspehu u narednim vremenima!

We have started the fourth year of the successful operation of *Medical Word* thanks to all of you who participate. Thank you for your efforts and trust, we hope for success in the future!

Prim. dr sc. med. Ana Antić,
glavni i odgovorni urednik

Prim. Ana Antić, MD, PhD,
Editor-in-Chief

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APSTRAKT 1S 2023; 4(2): 31–31 ABSTRACT 1S

Bezbedna transfuzija u uslovima pandemije Kovid 19
Safe Transfusion in the Conditions of the Covid 19 Pandemic

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Apstrakt

Svet se od kraja 2019. godine, pa sve do danas, suočava sa Kovid 19 pandemijom, koja je od samog svog početka značajno uticala na snabdevanje krvnim komponentama i na bezbednost transfuzije. Iako do danas nije zabeležen nijedan slučaj prenosa SARS-CoV-2 putem krvi, potvrđen je vertikalni prenos virusa sa majke na novorođenče. U tom smislu, odbijanje zaraženog i potencijalno zaraženog davaoca krvi je najznačajnija strategija koja smanjuje rizik prenosa virusa putem krvi na najmanju moguću meru.

Prvi korak je edukacija potencijalnih davalaca o kriterijumima za samoisključivanje od davanja krvi, a koji se zasnivaju na faktorima rizika za prenošenje SARS-CoV-2 virusa i na kliničkim simptomima infekcije. Skrining potencijalnih davalaca krvi podrazumeva temeljno uzetu anamnezu od davalaca, sa posebnim akcentom na istoriju putovanja i istoriju kontakata, kao i na simptome suspektne kovid 19 infekcije. Osobe sa povišenom telesnom temperaturom, simptomima suvog kašlja ili simptomima suspektne kovid 19 infekcije se odbijaju za davanje krvi, a na period od najmanje 14 dana odbijaju se i davaoci sa potvrđenim SARS-CoV-2 virusom, nakon povlačenja simptoma ili negativnog rezultata ponovljenog PCR testiranja. Ove mere su se pokazale efikasnim, kada se radi o simptomatskim davaocima, ali ne mogu da prevaziđu mogućnost davanja krvi od asimptomatskih kovid 19 pozitivnih davalaca. Dostupni skrining testovi nisu pouzdani, jer virusna RNK, testirana preko nazofaringealnog brisa i PCR metodom, najčešće ostaje neotkrivena pre pojave prvih simptoma. Takođe, kod asimptomatskih davalaca serološki test je negativan, a serokonverzija nastupa između treće i četvrte nedelje od pojave simptoma. Značajno mesto u održavanju bezbednosti transfuzije u uslovima Kovid 19 pandemije ima i tzv. „postdonacijska informacija", odnosno povratna informacija o zdravstvenom stanju dobrovoljnog davaoca krvi unutar perioda od 14 dana od davanja krvi.

U literaturi je prijavljeno nekoliko slučajeva transfuzije krvi od kovid 19 pozitivnih davalaca. Prvi je slučaj transfuzije trombocita od davaoca, kome je potvrđena infekcija 3 dana nakon trombocitafereze, pacijentu sa teškom aplastičnom anemijom, koji je i nakon primljene transfuzije ostao negativan na SARS-CoV-2. Takođe, potvrđeno je da 9 pacijenata, koji su primili transfuziju krvnih komponenti, pripremljenih od kovid 19 pozitivnih davalaca koji su u trenutku davanja krvi bili bez simptoma, nisu razvili infekciju. Pretpostavlja se da je koncentracija virusa u krvi asimptomatskih davalaca nedovoljna da bi se prenela infekcija primaocu krvi ili se virus neutrališe tokom različitih faza procesiranja i pripreme krvnih komponenti.

Ispitivanja su pokazala da je inaktivacija patogena korišćenjem riboflavina i UV zračenja u jedinicama plazme i koncentratima trombocita, ali i u jedinicama cele krvi, efikasna u smanjenju rizika transmisije SARS-CoV-2 transfuzijom. Ova metoda dovodi do log redukcije virusnog titra SARS-CoV-2 ≥ 4.53 u koncentratima trombocita i ≥ 3.40 u jedinicama plazme.

Abstract

From the end of 2019 until today, the world is facing the Covid 19 pandemic, which from its very beginning has significantly affected the supply of blood components and the safety of transfusion. Although no cases of SARS-CoV-2 blood transmission have been recorded so far, vertical transmission of the virus from mother to a newborn child has been confirmed. In this sense, the rejection of an infected and potentially infected blood donor is the most important strategy that reduces the risk of transmission of the virus through the blood to the smallest possible extent.

The first step is to educate potential donors about the criteria for self-exclusion from donating blood, which are based on risk factors for transmission of the SARS-CoV-2 virus and on clinical symptoms of infection. Screening of potential blood donors involves a thorough anamnesis taken from the donors, with special emphasis on travel and contact history, as well as symptoms of suspected Covid 19 infection. People with elevated body temperature, symptoms of dry cough, or symptoms of suspected Covid 19 infection are refused to donate blood, and donors with confirmed SARS-CoV-2 virus are also denied for a period of at least 14 days, after the withdrawal of symptoms or a negative result of repeated PCR testing. These measures have proven to be effective when it comes to symptomatic donors, but they cannot overcome the possibility of donating blood from asymptomatic covid 19 positive donors. The available screening tests are not reliable, because the viral RNA, tested through a nasopharyngeal swab and the PCR method, usually remains undetected before the first symptoms appear. Also, in asymptomatic donors, the serological test is negative, and seroconversion occurs between the third and fourth week after the onset of symptoms. An important place in maintaining the safety of transfusion in the conditions of the Covid 19 pandemic is also the so-called. "post-donation information", i.e. feedback on the health condition of the voluntary blood donor within a period of 14 days from the blood donation.

Several cases of blood transfusion from Covid 19 positive donors have been reported in the literature. The first is a case of transfusion of platelets donation, whose infection was confirmed 3 days after thrombocytapapheresis, to a patient with severe aplastic anemia, who remained negative for SARS-CoV-2 even after the transfusion. Also, it was confirmed that 9 patients who received a transfusion of blood components, prepared from Covid 19 positive donors who were symptom-free at the time of blood donation, did not develop an infection. It is assumed that the concentration of the virus in the blood of asymptomatic donors is insufficient to transmit the infection to the blood recipient or that the virus is neutralized during various stages of processing and preparation of blood components.

Tests have shown that pathogen inactivation using riboflavin and UV radiation in plasma units and platelet concentrates, but also in whole blood units, is effective in reducing the risk of SARS-CoV-2 transmission by transfusion. This method leads to a log reduction of SARS-CoV-2 viral titer ≥ 4.53 in platelet concentrates and ≥ 3.40 in plasma units.

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APSTRAKT 2S 2023; 4(2): 32–32 ABSTRACT 2S

Lečenje urinarne inkontinencije kod žena metodom TOT (Transobturator Tape)

Treatment of Urinary Incontinence in Women with the TOT Method (Transobturator Tape)

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Apstrakt

Uvod: Urinarna inkontinencija kod žena predstavlja značajan javnozdravstveni problem, jer ima visoku prevalenciju i incidenciju, što rezultira značajnim ekonomskim opterećenjem i smanjenim kvalitetom života. Lečenje urinarne inkontinencije kod žena fokusira se na usklađivanje terapijskog pristupa sa ciljevima pacijenata. Prilikom planiranja lečenja žena sa urinarnom inkontinencijom treba uzeti u obzir i fizički i psihički status. Metoda plasiranja trake suburetralno, transobturatornim putem (engl. *transobturator tape* – TOT) predstavlja jedan od zlatnih standarda hirurškog lečenja stres urinarne inkontinencije kod žena.

Cilj: Prikazati lečenje urinarne inkontinencije kod žena metodom TOT, kao i utvrditi efikasnost ove metode u lečenju žena sa urinarnom inkontinencijom.

Metoda: Pored studije slučaja korišćen je i metod sistematskog prikaza istraživanja drugih istraživača koja su u skladu sa ciljem istraživanja. Pri izradi rada korišćene su deskriptivna i indirektna opservaciona metoda.

Rezultati: U radu će biti detaljno prikazano izvođenje standardne TOT tehnike, kao i značaj instrumentarke, kao aktivnog člana hirurškog tima. Tokom operacije polipropilenska traka pozicionira se u visini srednje uretre prekutanim transobturatornim pristupom. Više studija je pokazalo da je TOT održiva opcija lečenja, sa dobrom dugotrajnom efikasnošću.

Zaključak: Na osnovu studija sprovedenih u svetu i kod nas možemo zaključiti da je hirurško lečenje urinarne inkontinencije kod žena metodom TOT bezbedan, efikasan i jednostavan postupak, nakon adekvatne obuke urologa. Pored toga, žene operisane TOT metodom imaju znatno manje postoperativne komplikacije u odnosu na druge operativne metode, a znatno je i skraćena dužina hospitalizacije.

Abstract

Introduction: Urinary incontinence in women represents a crucial public health problem because it has a high prevalence and incidence, which results in a significant economic burden and reduced quality of life. Treatment of urinary incontinence in women focuses on matching the therapeutic approach to the patient's goals. When planning the treatment of women with urinary incontinence, both physical and psychological status should be taken into account. The method of sub urethral, trans obturator tape placement (trans obturator tape - TOT) is one of the gold standards of surgical treatment of stress urinary incontinence in women.

Aims: To show the treatment of urinary incontinence in women using the TOT method, as well as to determine the effectiveness of this method in the treatment of women with urinary incontinence.

Methods: In addition to the case study, the method of systematic presentation of the research of other researchers, which is in accordance with the research objective, was also used. Descriptive and indirect observation methods were used in the preparation of the paper.

Results: The paper will present in detail the performance of the standard TOT technique, as well as the importance of the instrument technician as an active member of the surgical team. During the operation, the polypropylene strip is positioned at the height of the middle urethra through a trans obturator approach. Multiple studies have shown that TOT is a viable treatment option, with good long-term efficacy.

Conclusion: On the basis of studies carried out in the world and in our country, we can conclude that the surgical treatment of urinary incontinence in women using the TOT method is a safe, effective and simple procedure, after adequate urologist training. In addition, women operated with the TOT method have significantly fewer postoperative complications compared to other operative methods, and the length of hospitalization is significantly shortened.

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APSTRAKT 3S 2023; 4(2): 33–34 ABSTRACT 3S

ABCDE – postupci za veću šansu
ABCDE – Steps and Procedures for a Greater Chance

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Apstrakt

Prepoznavanje kritičnog pacijenta i rana primena terapijskih mera prevenira srčani zastoj i predstavlja prvu kariku lanca preživljavanja. ABCDE algoritam obavlja se brzo, u pet koraka, i obuhvata proveru disajnog puta, disanja, cirkulacije, neurološkog statusa, kao i pregled celog tela pacijenta. Kritični znaci pogoršanja pacijenta slični su bez obzira na uzrok, tako da adekvatan pristup ABCDE traumatizovanog pacijenta podrazumeva pravilno prepoznavanje mehanizma povređivanja, prepoznavanje simptoma, vrste preloma, njihovu imobilizaciju, prepoznavanje i zaustavljanje krvarenja, nadoknadu volumena i poziv za pomoć.

Inicijalni pregled počinje slovom A, što predstavlja prohodnost disajnog puta. Disajni put može biti prohodan, delimično i kompletno opstruiran. Disanje proveravamo metodom GLEDAJ – SLUŠAJ – OSEĆAJ koja ne traje duže od 10 sekundi i za to vreme palpiramo puls. U sklopu pregleda disanja bitni parametri su saturacija kiseonika, respiratorna frekvenca, auskultacija pluća i pokretljivost grudnog koša. Dve osnovne tehnike otvaranja disajnog puta su: zabaci bradu – podigni glavu i trostruki hvat. Pomagala koja obezbeđuju prohodnost disajnog puta su: orofaringealni i nazofaringealni tubus. Alternativna supraglotična sredstva koja koristimo kao napredne tehnike obezbeđenja disajnog puta su: laringealna maska, I-gel maska, laringealni tubus, king laringealni tubus i mnoga druga sredstva novije generacije.

Probleme na nivou cirkulacije pratimo pomoću cirkulatornih parametara: tenzija, vreme kapilarnog punjenja (periferna perfuzija), auskultacija srca i srčana frekvenca. Prepoznavanje cirkulatornog kolapsa i adekvatna nadoknada volumena, uz kontinuirani monitoring ritma i pritiska, smanjuju rizik od nastanka smrti. U sklopu neurološkog statusa, važna je procena simetričnosti zenica, koncentracije glukoze u krvi, brza procena nivoa svesti (AVPU – skala). A – odgovara pacijentu koji je svestan i orijentisan, V – pacijent koji odgovara na govorne komande, P – predstavlja reakciju na bolne draži, U – kada izostaje odgovor na bilo koji stimulus. Kompletan ABCDE pristup završava se otkrivanjem pacijenta uz minimalan gubitak toplote, proverom znakova alergije, traume i hemoragije.

ABCDE pristup je kompletiran uz upotrebu kontinuiranog monitoringa, dvanaestokanalnog EKG-a, promenom IV linije, oksigenom terapijom, kao i efikasnom komunikacijom sa timom. Najteži oblik pogoršanja je kardiorespiratorni zastoj, gde je indikovano što pre započeti mere napredne životne podrške, koje uključuju primenu visoko kvalitetne kompresije grudnog koša (dubina kompresije 5–6 cm, frekvenca 100–120/min), obezbeđenje disajnog puta, postavljanje elektroda defibrilatora i registrovanje inicijalnog ritma srčanog zastoja. Za efikasno zbrinjavanje potrebno je razmotriti reverzibilne uzroke, uz primenu tretmana za šokabilne ili nešokabilne ritmove i upotrebu odgovarajućih lekova. Defibrilator možemo

Abstract

Recognition of a critical patient and early application of therapeutic measures prevents cardiac arrest and represents the first link in the chain of survival. The ABCDE algorithm is performed quickly, in five steps, and includes a check of the airway, breathing, circulation, neurological status, as well as an examination of the patient's entire body. Critical signs of patient deterioration are similar regardless of the cause, so an adequate approach to the ABCDE of a traumatized patient includes proper recognition of the mechanism of injury, recognition of symptoms, types of fractures, their immobilization, recognition and stopping of bleeding, volume replacement and calling for help.

The initial examination begins with the letter A, which represents airway patency. The airway can be open, partially, or completely obstructed. We check to breathe using the LOOK - LISTEN - FEEL method, which lasts no longer than 10 seconds, during which time we palpate the pulse. As part of the breathing examination, important parameters are oxygen saturation, respiratory rate, lung auscultation, and chest mobility. The two basic techniques for opening the airway are chin tuck, head lift, and triple grip. Aids that ensure airway patency are: oropharyngeal and nasopharyngeal tubes. Alternative supraglottic devices that we use as advanced techniques for securing the airway are laryngeal masks, I-gel masks, laryngeal tubes, king laryngeal tubes, and many other newer-generation devices.

We monitor problems at the level of circulation using circulatory parameters: tension, capillary filling time (peripheral perfusion), heart auscultation, and heart rate. Recognition of circulatory collapse and adequate volume replacement, along with continuous monitoring of rhythm and pressure, reduce the risk of death. As part of the neurological status, it is important to assess the symmetry of the pupils, the concentration of glucose in the blood, and the rapid assessment of the level of consciousness (AVPU - scale). A - corresponds to a patient who is conscious and oriented, V - a patient who responds to voice commands, P - represents a reaction to painful stimuli, and U - when there is no response to any stimulus. The complete ABCDE approach concludes by exposing the patient to minimal heat loss and checking for signs of allergy, trauma, and hemorrhage.

The ABCDE approach was completed with the use of continuous monitoring, twelve-lead ECG, IV- line change, oxygen therapy, and effective communication with the team. The most severe form of deterioration is cardiorespiratory arrest, where it is indicated to start advanced life support measures as soon as possible, which include the application of high-quality chest compression (compression depth 5 - 6 cm, frequency 100 - 120/min), securing the airway, placing defibrillator electrodes and registering the initial rhythm of cardiac arrest. For effective care, it is necessary to consider reversible causes, with the application of treatment for shockable or non-shockable rhythms

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upotrebiti za uspešnu i sigurnu defibrilaciju, za brzu procenu ritma, sinhronu kardioverziju i neinvazivnu transkutanu elektrostimulaciju srca. Nakon srčanog zastoja, povratak spontane cirkulacije zahteva kvalitetan tretman koji će značajno uticati na životni ishod pacijenta.

and the use of appropriate drugs. We can use the defibrillator for successful and safe defibrillation, for rapid rhythm assessment, synchronous cardioversion and non-invasive transcutaneous electrostimulation of the heart. After a cardiac arrest, the return of spontaneous circulation requires quality treatment that will significantly affect the patient's life outcome.

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APSTRAKT 4S 2023; 4(2): 35–35 ABSTRACT 4S

Timski rad u sestrinstvu
Teamwork in Nursing

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Apstrakt

U pružanju zdravstvene zaštite efikasan timski rad može odmah i pozitivno uticati na bezbednost i ishod lečenja pacijenata. Potreba za efikasnim timovima je veća zbog povećanog broja komorbiditeta i složenosti specijalizacije nege. Evolucija zdravstvene zaštite i globalna potražnja za kvalitetnom negom pacijenata zahtevaju paralelni profesionalni razvoj zdravstvene zaštite, koji je fokusiran na timski rad, usredsređen ka pacijentu. Ovo se može postići samo postavljanjem pacijenta u centar nege i deljenjem široko zasnovane kulture vrednosti i principa. To će pomoći formiranju i razvoju efikasnog tima, koji će pacijentima pružiti izuzetnu negu. Na putu postizanja ovog cilja, motivacija članova tima treba da bude podržana strategijama i praktičnim veštinama kako bi se postigli ciljevi i savladali izazovi. Ovaj rad naglašava vrednosti i principe timskog rada u okviru nege pacijenta.

Abstract

In the provision of health care, effective teamwork can immediately and positively affect the safety and outcome of patient treatment. The need for effective teams is greater due to the increased number of comorbidities and the complexity of the specialization of care. The evolution of health care and the global demand for quality patient care require parallel professional development of health care, which is focused on teamwork, centered on the patient. This can only be achieved by placing the patient at the center of care and sharing a broad-based culture of values and principles. This will help to form and develop an efficient team, which will provide patients with exceptional care. On the way to achieving this goal, team members' motivation should be supported by strategies and practical skills to achieve goals and overcome challenges. This work emphasizes the values and principles of teamwork in patient care.

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APSTRAKT 5S 2023; 4(2): 36–36 ABSTRACT 5S

Alchajmerova bolest: nekad i sad, perspektive u budućnosti

Alzheimer`s Disease, then and now, Perspectives in the Future

Lidija Milenković, Vladislav Milenković

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Apstrakt

Alchajmerova bolest, kao načešći uzrok demencije širom sveta, multifaktorijalne je etiologije. Statistički podaci pokazuju eksponencijalni porast broja slučejeva Alchajmerove bolesti, naglašavajući potrebu za razvojem efikasnog lečenja.

Iako je demencija opisana u drevnim tekstovima tokom vekova, naše znanje o njenim osnovnim uzrocima je staro više od veka. Alchajmer je objavio svoju sada poznatu studiju slučaja pre više od 110 godina, a naše savremeno razumevanje bolesti, koja nosi njegovo ime, i njenih psihopatoloških posledica, zaista je počelo da se ubrzava tek 1980. godine. Nakon tog perioda svedoci smo velikog broja istraživanja, kako osnovnih, tako i translacionih, o uzrocima, karakteristikama i mogućnostima tretmana za Alchajmerovu bolest i druge demencije.

Dok su ranije procene stadijuma bolesti bile fokusirane na progresivno pogoršanje kliničkog funkcionisanja, osamdesetih godina prošlog veka započela su temeljna profilisanja neuropsihološkog deficita. Devedesetih godina, u nastavku napora i eksplozije istraživanja, počinje identifikacija specifičnih kognitivnih mehanizama na koje utiče različit neuropatološki supstrat. Dvehiljadite godine bacaju fokus na proučavanje prodromalnih stadijuma neurodegenerativne bolesti pre pojave potpunog sindroma demencije (npr. blagog kognitivnog poremećaja).

Snimanje mozga pozitron emisionom tomografijom i studije biomarkera cerebrospinalne tečnosti istakli su drugu fazu, predkliničku fazu Alchajmerove bolesti, te i zaključak da kaskada detektibilnih bioloških abnormalnosti itekako prethodi kognitivnom deficitu i njegovom padu. U protekloj deceniji razvoj imidžinga, detektovanja tečnih biomarkera patofiziologije Alchajmerove bolesti daju nam mogućnost dijagnostikovanja i nekoliko faza u predkliničkoj fazi Alzheimerove bolesti.

Dosadašnji lekovi koji su u upotrebi obezbeđuju samo simptomatsko poboljšanje, ali nemaju uticaja na modifikaciju patofiziološkog supstrata bolesti. Glavna strategija istraživanja terapije za Alchajmerovu bolest zasnovana je na amiloidu u tauu, koji bi mogli da budu ključ za lečenje Alchajmerove bolesti u bliskoj budućnosti.

Abstract

Alzheimer's disease, as the most common cause of dementia worldwide, has a multifactorial etiology. Statistical data show an exponential increase in the number of Alzheimer's disease cases, emphasizing the need for the development of effective treatment.

Although dementia has been described in ancient texts for centuries, our knowledge of its underlying causes is more than a century old. Alzheimer's published his now-famous case study more than 110 years ago, and it wasn't until 1980 that our modern understanding of the disease that bears his name and its psychopathological consequences really began to accelerate. After that period, we witnessed a large amount of research, both basic and translational, on the causes, characteristics and possibilities of treatment for Alzheimer's disease and other types of dementia.

While earlier assessments of disease stage focused on progressive deterioration of clinical functioning, in the 1980s, thorough profiling of neuropsychological deficits began. In the 1990s, following the efforts and explosion of research, the identification of specific cognitive mechanisms that are influenced by different neuropathological substrates began. The two thousand years have focused on the study of prodromal stages of neurodegenerative disease before the onset of a full dementia syndrome (e. g. mild cognitive impairment).

Brain imaging with positron emission tomography and studies of cerebrospinal fluid biomarkers highlighted the second phase, the preclinical phase of Alzheimer's disease, and the conclusion that the cascade of detectable biological abnormalities precedes the cognitive deficit and its decline. In the past decade, the development of imaging and detection of liquid biomarkers of the pathophysiology of Alzheimer's disease give us the possibility of diagnosing several stages in the preclinical phase of Alzheimer's disease.

The drugs currently in use provide only symptomatic improvement, but have no effect on the modification of the pathophysiological substrate of the disease. A major research strategy for Alzheimer's disease therapy is based on amyloid in tau, which could be the key to Alzheimer's disease treatment in the near future.

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APSTRAKT 6S 2023; 4(2): 37–37 ABSTRACT 6S

Inhalaciona terapija – značaj i primena
Inhalation Therapy – Imporance and Application

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Apstrakt

Astma i hronična opstruktivna bolest su hronični inflamatorni poremećaji disajnih puteva koje karakteriše opstrukcija, i ona pogađa oko 10% populacije. Najnovija preporučena terapija je, prema glavnim smernicama, inhalaciona terapija. Inhalaciona primena omogućava isporuku leka direktno na ciljno mesto delovanja, što omogućava primenu manjih doza i smanjenje sistemskih neželjenih efekata. Na tržištu su danas dostupne tri vrste uređaja: preparati za inhalaciju pod pritiskom sa dozatorom („pumpice" engl. *pressurized metered dose inhaler*, pMDI), inhalatori za praškove (engl. dry powder inhalers, DPI) i nebulizatori. Inhalatori pod pritiskom sa dozatorom se najčešće primenjuju. Sastoje se od dozatora sa raspršivačem i komore sa rastvorom ili suspenzijom lekovite supstance i potisnim gasom u tečnom obliku. Imaju najkomplikovaniji način primene, jer treba istovremeno (sporo i duboko) udahnuti i aktivirati pumpicu. U slučaju da pacijenti ne mogu pravilno da ih koriste, mogu se koristiti zajedno sa komorama (spejserima) ili se mogu koristiti novi pMDI preparati koji se aktiviraju udahom. Inhalatori za praškove sadrže lekovitu supstancu u suvom obliku. Dostupni su jednodozni i višedozni inhalatori. Prednost ovih uređaja u odnosu na pMDI jeste lakša tehnika primene, jer ne zahtevaju koordinaciju aktivacije preparata sa udahom. Većina preparata zahteva snažan i dubok udisaj. Nebulizatori (rasršivači) koriste komprimovan vazduh ili kiseonik za raspršivanje rastvora ili suspenzije lekovite supstance. Kod primene nebulizatora, disanje treba da bude sporo i pravilno, sa povremenim dubokim udisajem. Dostupni su i uređaji za kućnu upotrebu, koji se prevashodno upotrebljavaju kod pacijenata koji ne mogu da koriste druge inhalatore (npr. stari pacijenti ili deca). Lekovi prvog izbora u terapiji akutnog pogoršanja astme su inhalacioni beta 2 agonisti i kortikosteoridi. Inhalacija kratkodelujućim beta 2 agonistima (SABA) je obično dovoljna i efikasna za brzu reverzibilnost bronhoopstrukcije, kod blage ili umerene egzacerbacije (4–10 udaha svakih 20 minuta u toku prvog sata). Nakon prvog sata se procenjuje odgovor i, ukoliko se simptomi održavaju, preporučuje se dodatna primena SABA (4–10 inhalacija na 3–4 h ili 6–10 inhalacija na 1–2 h) u zavisnosti od simptoma i plućne funkcije. Inhalacioni kortikosteoridi su najefikasniji lekovi za kontrolu astme, a njihova rana upotreba je značajno unapredila terapiju astme. Inhalatorni kortikosteoridi smanjuju broj inflamatornih ćelija i njihovu aktivaciju u disajnim putevima. Obično se primenjuju dva puta dnevno, ali kod pacijenata sa blagim simptomima mogu biti efikasni i kada se daju jednom dnevno. Brojne studije pokazuju da pacijenti izvode neispravnu tehniku inhalacije. Sprovedena je studija u kojoj je učestvovalo 995 pacijenata sa hroničnom opstruktivnom bolešću pluća u 20 zdravstvenih centara, gde je pokazano da je 906 pacijenata sprovelo neispravnu inhalcionu tehniku. Najčešće greške u izvođenju su bile povezane sa niskom kognitivnom sposobnošću, niskim vršnim protokom izdisaja i manjem broju medicinskih konsultacija sa pulmologom.

Abstract

Asthma and chronic obstructive disease are chronic inflammatory disorders of the airways characterized by an obstruction, affecting about 10% of the population. The latest recommended therapy, according to the main guidelines, is inhalation therapy. Inhalation administration enables the delivery of the drug directly to the target site of action, which enables the administration of smaller doses and the reduction of systemic side effects. There are three types of devices available on the market today: pressurized metered dose inhalers (pMDI), dry powder inhalers (DPI), and nebulizers. Pressure inhalers with a dispenser are most commonly used. They consist of a dispenser with a sprayer and a chamber with a solution or suspension of the medicinal substance and a pressure gas in liquid form. They have the most complicated method of application because it is needed to inhale (slowly and deeply) and activate the pump at the same time. In case patients cannot use them properly, they can be used together with chambers (spacers) or new inhalation-activated pMDI preparations can be used. Powder inhalers contain a medicinal substance in dry form. Single-dose and multi-dose inhalers are available. The advantage of these devices compared to pMDI is an easier application technique because they do not require coordination of the activation of the preparation with inhalation. Most preparations require a strong and deep inhalation. Nebulizers use compressed air or oxygen to disperse a solution or suspension of a medicinal substance. When using a nebulizer, breathing should be slow and regular, with occasional deep breaths. Devices for home use are also available, which are primarily used by patients who cannot use other inhalers (e.g. elderly patients or children). The drugs of first choice in the therapy of acute exacerbation of asthma are inhaled beta 2 agonists and corticosteroids. Inhalation of short-acting beta 2 agonists (SABA) is usually sufficient and effective for rapid reversibility of bronchus-obstruction, in mild or moderate exacerbations (4-10 breaths every 20 minutes during the first hour). After the first hour, the response is assessed and, if symptoms persist, additional administration of SABA is recommended (4-10 inhalations over 3-4 hours or 6-10 inhalations over 1-2 hours) depending on symptoms and lung function. Inhaled corticosteroids are the most effective drugs for asthma control, and their early use has significantly improved asthma therapy. Inhaled corticosteroids reduce the number of inflammatory cells and their activation in the airways. They are usually given twice a day, but in patients with mild symptoms, they can be effective when given once a day. Numerous studies show that patients perform incorrect inhalation techniques. A study was conducted involving 995 patients with chronic obstructive pulmonary disease in 20 health centers, where it was shown that 906 patients performed incorrect inhalation techniques. The most common performance errors were associated with low cognitive ability, low peak expiratory flow, and fewer medical consultations with a pulmonologist.

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APSTRAKT 7S 2023; 4(2): 38–38 ABSTRACT 7S

Zadaci medicinske sestre kod biopsije sentinel limfnog čvora karcinoma dojke

Tasks of the Nurse in Sentinel Lymph Node Biopsy of Breast Cancer

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Apstrakt

Karcinom je bolest današnjice i nalazi se u samom vrhu uzroka morbiditeta i mortaliteta kod žena. Iako se o ovoj bolesti dosta priča, prevencija ove bolesti nije na zavidnom nivou. Preventivni skrining programi treba da budu dostupni svima. Zato što je karcinom dojke izuzetno rasprostranjen, njegova prevencija i rano dijagnostikovanje, pravovremeno i adekvatno lečenje zahtevaju veliku pažnju.

Sentinel nodus ili limfni čvor stražar prvi je drenažni nodus na putu limfatičke drenaže od mesta malignog tumora. Samim tim, ovaj nodus će biti prvi zahvaćen malignim metastatskim procesom kod tumora koji se šire limfatičkim putem. Biopsija sentinel nodusa omogućava uvid u stadijum zahvaćenosti karcinoma, odnosno, da li je došlo do prvog metastatskog širenja, pa samim tim ona omogućava i terapijski pristup hirurga regionalnom limfnom području.

Biopsija sentinel nodusa prvi put je opisana kod karcinoma penisa 1977. godine, kasnije je formalizovana kod melanoma 1992. godine, i karcinoma dojke 1994. godine. Poslednjih nekoliko godina biopsija sentinel nodusa uvedena je kao alternativa disekciji aksile kod karcinoma dojke, što ukazuje na njen značaj, ne samo kada je u pitanju stadiranje bolesti, već i kod adekvatnog terapijskog pristupa.

Praktična iskustva onkoloških sestara ukazuju na sve veći značaj biopsije sentinel limfnog čvora kod karcinoma dojke. Aktivnosti medicinskih sestara povećavaju uspešnost biopsije sentinel limfnog čvora kod karcinoma dojke.

Abstract

Cancer is a modern disease and is at the very top of the cause of morbidity and mortality in women. Although there is a lot of discussion about this disease, the prevention of this disease is not at a high level. Preventive screening programs should be available to everyone. Because breast cancer is extremely widespread, its prevention and early diagnosis, and timely and adequate treatment require great attention.

The sentinel node or sentinel lymph node is the first drainage node on the way of lymphatic drainage from the site of a malignant tumor. Therefore, this node will be the first to be affected by the malignant metastatic process in tumors that spread through the lymphatic system. Sentinel node biopsy provides insight into the stage of cancer involvement, i.e., whether the first metastatic spread has occurred, and therefore it also enables the surgeon's therapeutic approach to the regional lymphatic area.

Sentinel node biopsy was first described in penile cancer in 1977, later formalized in melanoma in 1992, and breast cancer in 1994. In the last few years, sentinel node biopsy has been introduced as an alternative to axillary dissection in breast cancer, which indicates its importance, not only when it comes to staging the disease, but also when it comes to an adequate therapeutic approach.

Practical experiences of oncology nurses indicate the increasing importance of sentinel lymph node biopsy in breast cancer. Nurses' activities increase the success rate of sentinel lymph node biopsy in breast cancer.

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APSTRAKT 8S 2023; 4(2): 39–40 ABSTRACT 8S

Sestrinske intervencije u zbrinjavanju bolesnika sa akutnim infarktom miokarda

Nursing Interventions in the Care of Patients with Acute Myocardial Infarction

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Apstrakt

Akutni infarkt miokarda (AIM) je česta i urgentna bolest sa potencijalno lošom prognozom. Nastaje zbog naglog prekida protoka krvi kroz krvne sudove srca. Razlog prekida cirkulacije je začepljenje krvih sudova masnim naslagama i sitnim krvim ugruščima – trombima. Zbog prekida protoka krvi, srčani mišić počinje delimično da odumire, nastaje smanjenje zdrave srčane mišićne mase, i srce gubi delom svoju osnovnu funkciju.

AIM se dešava u bilo koje vreme i na svakom mestu, najčešće u radnom životnom dobu (40–60 god.) i ima, ne samo medicinski, već i socijalni značaj. Dijagnoza AIM postavlja se na osnovu karakterističnih promena u kliničkoj slici, elektrokardiograma i biohemijskih analiza.

U tipičnoj kliničkoj slici dominiraju anamnestički podaci o anginoznom bolu i objektivan nalaz anginoznog statusa:
– bol koji traje duže od 30 min,
– na skali od 0 do 10 mnogi ga ocenjuju sa 10,
– lokalizovan je iza grudne kosti i/ili epigastrujuma, širi se u vrat ili duž leve ruke,
– bol je često u vidu pritiska, stezanja, probadanja.

Često je prisutno i znojenje, malaksalost, mučnina, povraćanje.

Pravovremenim prepoznavanjem simptoma AIM i pozivom hitne medicinske pomoći (HMP) može se reći da počinje zbrinjavanje obolelog. Ekipu HMP čine 1 lekar (specijalista urgentne medicine), 1 medicinska sestra / tehničar i 1 vozač, tako mali broj osoba, ali sa takvim znanjem, profesionalizmom, predanošću, koji su spremni da u svakoj situaciji daju maksimum. Sva sanitetska vozila treba da budu opremljena monitoring sistemom, defibrilatorom, sistemima za oksigeno terapiju, endotrahealnu intubaciju, infuzionim rastvorima i adekvatnim lekovima.

Prva pomoć bolesniku sa AIM na terenu, u kojoj medicinska sestra / tehničar ima značajnu ulogu, sastoji se od: adekvatnog položaja, oksigeno terapije, EKG monitoringa, uspostavljanja venske linije, aplikacije terapije i psihičke podrške. Transport bolesnika treba biti brz, efikasan, siguran. Ekipa HMP telefonskim putem obaveštava prijemnu ambulantu o prijemu, a ekipa iz prijemne koronarnu jedinicu i salu za kateterizaciju.

Pacijent se smešta u koronarnu jedinicu.

Abstract

Acute myocardial infarction (AMI) is a frequent and urgent disease with a potentially poor prognosis. It is caused by a sudden interruption of blood flow through the blood vessels of the heart. The reason for the interruption of circulation is the clogging of blood vessels with fatty deposits and tiny blood clots - thrombi. Due to the interruption of blood flow, the heart muscle begins to partially die, a decrease in healthy heart muscle mass occurs, and the heart loses part of its basic function.

AMI occurs at any time and in any place, most often the working age (40-60 years), and has not only medical but also social significance. The diagnosis of AMI is made on the basis of characteristic changes in the clinical picture, electrocardiogram, and biochemical analyses.

The typical clinical picture is dominated by anamnestic data on anginal pain and an objective finding of anginal status:
– pain that lasts longer than 30 minutes,
– on a scale from 0 to 10, many can rate it as a 10,
– it is localized behind the sternum and/or epigastrium, spreads to the neck or along the left arm,
– pain is often in the form of pressure, tightness, and stabbing.

Sweating, weakness, nausea, and vomiting are also often present.

With the timely recognition of the symptoms of AMI and the call of the emergency medical service (HMP), it can be said that the treatment of the patient begins. The HMP team consists of 1 doctor (specialist in emergency medicine), 1 nurse/technician, and 1 driver, such a small number of people, but with such knowledge, professionalism, and dedication, who are ready to give their best in every situation. All medical vehicles should be equipped with a monitoring system, a defibrillator, systems for oxygen therapy, endotracheal intubation, infusion solutions, and adequate medicines.

First aid to a patient with AMI in the field, in which the nurse/technician plays a significant role, consists of adequate positioning, oxygen therapy, ECG monitoring, the establishment of a venous line, application of therapy, and psychological support. Patient transport should be fast, efficient, and safe. The HMP team informs the reception clinic about the admission by telephone, and the reception team informs the coronary unit and the catheterization room.

The patient is placed in the coronary unit.

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Sestrinske intervencije su:
– smeštaj bolesnika u postelju i oslobađanje pacijenta odeće,
– primena oksigeno terapije,
– provera prohodnosti plasiranih braunila,
– uzimanje krvi za laboratorijske analize,
– aplikacija propisane terapije,
– spovođenje zdravstvene nege prema stanju i potrebama bolesnika,
– priprema za dijagnostičko-terapijske procedure.

AIM se može lečiti:

1. *Primarnom koronarnom intervencijom* (primary percutaneous coronary intervention-PCI) – invazivna metoda lečenja.

Sestrinske intervencije podrazumevaju obezbeđivanje dva venska puta, vađenje krvi za krvnu grupu i Rh faktor, aplikaciju ordinirane terapije, informisanje pacijenta o proceduri i davanje obazaca za saglasnost za intervenciju – potpis pacijenta, brijanje prepona ili ruku (mesto punkcije). Nakon pripreme, pacijent se odvozi u salu za kateterizaciju.

Zdravstvena nega nakon završene koronarografije ili PCI:
– kontrola vitalnih parametara i EKG-a,
– pacijent treba da popije 1,5 l tečnosti za 2–3 sata da bi eliminisao kontrast iz organizma,
– kontrola diureze,
– kontrola punkcionog mesta.

2. *Primenom fibrinolitičke terapije* – neinvazivna metoda lečenja.

Sestrinske intervencije u toku primene fibrinolitičke terapije su stalni nadzor nad pacijentom, EKG monitoring, stalno merenje vitalnih parametara, oksigeno terapija, brzo i adekvatno reagovanje u slučaju komplikacija.

Medicinske sestre / tehničari su izuzetno jake spone koje povezuju ceo sistem zdravstvene nege, od prijema do otpusta.

Nursing interventions are:
– placing the patient in bed and undressing the patient,
– application of oxygen therapy,
– checking if a placed cannula is passable,
– taking blood for laboratory analyses,
– application of prescribed therapy,
– providing health care according to the condition and needs of the patient,
– preparation for diagnostic and therapeutic procedures.

AMI can be treated by:

1. *Primary coronary intervention (primary percutaneous coronary intervention*-PCI) – an invasive method of treatment.

Nursing interventions include providing two venous accesses, drawing blood for blood group and Rh factor, applying the prescribed therapy, informing the patient about the procedure, and providing consent forms for the intervention - the patient's signature, shaving the groin or hands (puncture site). After preparation, the patient is taken to the catheterization room.

Health care after completed coronary angiography or PCI:
– control of vital parameters and ECG,
– the patient should drink 1.5 l of liquid in 2-3 hours to eliminate the contrast from the body,
– diuresis control,
– control of the puncture site.

2. *Using fibrinolytic therapy - a non-invasive method of treatment*.

Nursing interventions during the application of fibrinolytic therapy are constant supervision of the patient, ECG monitoring, constant measurement of vital parameters, oxygen therapy, and quick and adequate response in case of complications.

Nurses/technicians are extremely strong links that connect the entire healthcare system, from admission to discharge.

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Razvoj urgentne medicine – direktno automatski eksterni defibrilator

Development of Emergency Medicine – Direct Automated External Defibrillator

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Apstrakt

Uvod: Razvoj urgentne medicine u direktnoj je vezi sa tehnološkim napredovanjem društva. Uspešno prehospitalno zbrinjavanje vitalno ugroženih pacijenata, posebno onih sa kardiopulmonalnim arestom, u direktnoj je proporciji sa kvalitetom prethodno savladane edukacije.

Metodologija rada: Edukacija u urgentnoj medicini podrazumeva, pored savladavanja teorijskog znanja, i vladanje mnogim manuelnim veštinama, kao i upravljanje aparatima specifičnim u prehospitalnom radu. Automatski eksterni defibrilator (AED) je danas dostupan za korišćenje i laicima koji su prošli obuku za rukovanje ovim aparatom. Praćenjem istorijskog razvoja upotrebe defibrilacije u kardiopulmonalnoj reanimaciji, moguće je razumeti put kojim se urgentna medicina kreće. Izuzetnim zalaganjem naučnika, još sa početka prošlog veka, i tehnološkim napredovanjem, došli smo do toga da je smrtnost od kardiopulmonalnog aresta uzrokovanog malignim poremećajima ritma smanjena.

Zaključak: Postoje jasni naučni dokazi da postoji opravdana potreba za razvojem AED programa, kao i za i obezbeđivanjem veće i pravilnije dostupnosti ovog životno spašavajućeg aparata svom stanovništvu. Kardiopulmonalni arest u vanbolničkim uslovima i edukacija laika, čak i dece, za upotrebu AED-a i dalje je u fokusu istraživanja naučnika.

Abstract

Introduction: The development of emergency medicine is directly related to the technological advancement of society. Successful pre-hospital care of vitally endangered patients, especially those with cardiopulmonary arrest, is in direct proportion to the quality of previously mastered education.

Work methodology: Education in emergency medicine implies, in addition to mastering theoretical knowledge, the mastery of many manual skills, as well as the management of devices specific to prehospital work. An automated external defibrillator (AED) is now available for use by laypersons who have been trained to operate this device. By tracing the historical development of the use of defibrillation in cardiopulmonary resuscitation, it is possible to understand the path taken by emergency medicine. Due to the extraordinary efforts of scientists, since the beginning of the last century, and technological progress, we have come to the point that mortality from cardiopulmonary arrest caused by malignant rhythm disorders has decreased.

Conclusion: There is clear scientific evidence that there is a justified need to develop an AED program, as well as to ensure greater and more regular availability of this life-saving device to the entire population. Out-of-hospital cardiopulmonary arrest and the education of lay people, even children, in the use of AEDs, continue to be the focus of research by scientists.

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APSTRAKT 10S 2023; 4(2): 42–43 ABSTRACT 10S

Izazovi u prevenciji karcinoma grlića materice
Challenges in the Prevention of Carcinoma of the Cervix

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Apstrakt

Humani papiloma virus (HPV) predstavlja veliki zdravstveni problem, ne samo kod nas, već i u svetu, s obzirom na to da je HPV uzročnik raka grlića materice i jedna od najčešćih polno prenosivih infekcija. Podaci o prevalenci HPV-a u opštoj populaciji u Srbiji još uvek nisu dostupni. Međutim, u Južnoj Evropi, u regionu kome Srbija pripada, procenjuje se da je prevalencija HPV infekcije oko 9,2% žena u opštoj populaciji. U Srbiji je 2006. godine registrovana multivalentna vakcina gardasil za HPV tipove 16, 18, 6 i 11. Vakcina je namenjena ženskoj populaciji, uzrasta od 9 do 26 godina; njena primena je efikasna samo kod osoba koje nisu bile u kontaktu sa HPV tipovima 6, 11, 16 i 18, a trajanje zaštite je od 4 do 5, odnosno, 7 godina.

Danas je prevencija HPV infekcije usmerena na primarnu prevenciju, odnosno HPV vakcinaciju, kao i na dijagnostiku HPV infekcije. Koutski i saradnici su 2002. prvi ukazali na preventivne efekte HPV vakcine. Povezanost infektivnog agensa sa nastankom intraepitelne neoplazije i karcinoma grlića materice, kao i svrstavanje HPV-a kao onkoagensa, omogućilo je dalji napredak u pokušaju eradikacije HPV infekcije. Vakcinacija predstavlja noviju opciju primarne zaštite od virusa čija infekcija dovodi do citoloških abnormalnosti i raka grlića materice. Imunitet koji stvara vakcina, posebno protiv HPV tipa 18, kao glavnog uzroka adenokarcinoma (rak grlića materice koji je teško otkriti skriningom), može smanjiti razvoj adenokarcinoma za više od 90%, kao i 80 do 90% svih slučajeva raka grlića materice u svetu.

Značaj primene HPV vakcine u prevenciji raka grlića materice potvrdile su i druge studije, a ima i onih koje govore o ograničenom doprinosu i negativnim efektima vakcinacije. Brojne studije bave se različitim otvorenim pitanjima u vezi sa preporukama za vakcinaciju, kako onim vezanim za ciljnu populaciju, tako i intervalom primene vakcine i intervalom zaštite, pa i isplativošću vakcinacije. Multicentrična studija Rei-Ares i saradnika je pokazala da su trenutno dostupne vakcine efikasne i bezbedne za upotrebu u prevenciji CIN2+ lezija, iako dugoročna efikasnost još uvek nije u potpunosti ispitana.

Upotreba HPV vakcine izazvala je brojne kontroverze, kao i potrebu za konsenzusom stručnjaka iz različitih oblasti medicine. Kako se radi o relativno kratkom periodu primene, nema dovoljno studija o efikasnosti, kao i o rizicima primene.

Veruje se da primena vakcine protiv HPV tipova 16 i 18 pre započinjanja seksualne aktivnosti, uz redovan skrining (jedan ginekološki pregled svake 3 godine), može da smanji incidencu raka grlića materice za 94%. Danas se razmatraju i mnogi drugi aspekti primene vakcine, kao što su: efekti

Abstract

Human papillomavirus (HPV) represents a major health problem, not only in our country but also in the world, given that HPV is the cause of cervical cancer and one of the most common sexually transmitted infections. Data on the prevalence of HPV in the general population in Serbia are still not available. However, in Southern Europe, in the region to which Serbia belongs, it is estimated that the prevalence of HPV infection is around 9.2% of women in the general population. In 2006, the multivalent vaccine Gardasil for HPV types 16, 18, 6, and 11 were registered in Serbia. The vaccine is intended for the female population, aged 9 to 26 years; its application is effective only in persons who have not been in contact with HPV types 6, 11, 16, and 18, and the duration of protection is from 4 to 5, that is, 7 years.

Today, the prevention of HPV infection is focused on primary prevention, that is, HPV vaccination, as well as on the diagnosis of HPV infection. In 2002, Koutski et al. were the first to point out the preventive effects of the HPV vaccine. The association of the infectious agent with the occurrence of intraepithelial neoplasia and cervical cancer, as well as the classification of HPV as an on-coagent, enabled further progress in the attempt to eradicate HPV infection. Vaccination is a newer option for primary protection against viruses whose infection leads to cytological abnormalities and cervical cancer. Immunity created by the vaccine, especially against HPV type 18, as the main cause of adenocarcinoma (cervical cancer that is difficult to detect by screening), can reduce the development of adenocarcinoma by more than 90%, as well as 80 to 90% of all cases of cervical cancer in the world.

The importance of the use of the HPV vaccine in the prevention of cervical cancer has been confirmed by other studies, and there are also those that talk about the limited contribution and negative effects of vaccination. Numerous studies address various open questions related to vaccination recommendations, both those related to the target population, the interval of vaccine administration and the interval of protection and the cost-effectiveness of vaccination. A multicenter study by Rei-Ares et al showed that currently available vaccines are effective and safe for use in the prevention of CIN2+ lesions, although long-term efficacy has not yet been fully investigated.

The use of the HPV vaccine has caused numerous controversies, as well as the need for a consensus of experts from various medical fields. As it is a relatively short period of application, there are not enough studies on the effectiveness, as well as on the risks of application.

It is believed that the administration of the vaccine against HPV types 16 and 18 before starting sexual activity, along with regular screening (one gynecological examination every 3 years), can reduce the incidence of cervical cancer by 94%. Many other

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vakcinacije na smanjenje incidencije i mortaliteta od raka grlića materice, najefikasniji programi vakcinacije, pitanja o efektima nepotpune vakcinacije (samo jedna ili dve doze vakcine), neželjena dejstva i kontraindikacije, potreba testiranja na HPV pre primene vakcine, određivanje osobe koja bi donosila odluke u zdravstvenom sistemu o primeni vakcine, promocija primene vakcine, pitanja vezana za ciljnu populaciju za vakcinu (samo devojčice ili dečaci), kao i ekonomska analiza odnosa troškova i efekata vakcinacije. O stvarnim efektima vakcine možemo govoriti tek kada se dokaže da vakcina sprečava klinički manifestnu bolest, a ne samo dispneju.

U slučaju vakcinacije, važno je nastaviti sa redovnim skriningom kako bi se obezbedila zaštita od posledica infekcije HPV tipovima protiv kojih vakcine ne pružaju zaštitu i da se adekvatno meri uspešnost primarne i sekundarne prevencije raka grlića materice.

aspects of vaccine use are being considered today, such as the effects of vaccination on reducing the incidence and mortality of cervical cancer, the most effective vaccination programs, questions about the effects of incomplete vaccination (only one or two doses of the vaccine), side effects and contraindications, the need HPV testing before vaccine administration, determination of the person who would make decisions in the health system about vaccine administration, promotion of vaccine administration, issues related to the target population for the vaccine (only girls or boys), as well as an economic analysis of the relationship between costs and effects of vaccination. We can talk about the real effects of the vaccine only when it is proven that the vaccine prevents clinically manifest disease, and not just dyspnea.

In the case of vaccination, it is important to continue with regular screening in order to ensure protection against the consequences of infection with HPV types against which vaccines do not provide protection and to adequately measure the success of primary and secondary prevention of cervical cancer.

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APSTRAKT 11S 2023; 4(2): 44–44 ABSTRACT 11S

Bolničke infekcije u Univerzitetskom kliničkom centru Niš u periodu 2012–2022

Healthcare-Associated Infections in the University Clinical Center Niš in the Period from 2012 to 2022

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Apstrakt

Uvod: Bolnička infekcija (infekcija povezana sa zdravstvenom zaštitom) je infekcija koja je nastala kod pacijenta ili osoblja u bolnici, u nekoj drugoj zdravstvenoj ili socijalnoj ustanovi i to prilikom pružanja zdravstvene zaštite i postala evidentna trećeg dana hospitalizacije ili su se simptomi javili na prijemu, a od prethodnog otpusta iz bolnice nije prošlo više od 48 h, odnosno, ako se utvrdi je infekcija povezana sa hiruškom intervencijom i ispolji se nakon 30 dana od intervencije ako nije ugrađen implantat, odnosno 90 dana ako je ugrađen implantant.

Cilj: Sagledati učestalost nastanka svih bolničkih infekcija (po lokalizaciji, uzročniku i rezistenciji) po klinikama u UKC Niš, sa posebnim osvrtom na Dečju internu kliniku, u periodu od 2012. do 2021. godine.

Materijal i metoda rada: Primenjen je deskriptivni metod rada. Kao izvor podataka korišćene su prijave bolničkih infekcija i godišnji izveštaji IZJZ Niš, kao i protokoli Centra za mikrobiologiju Instituta za javno zdravlje Niš.

Rezultati: U periodu od 2012. do 2021. godine prijavljeno je 1967 bolničkih infekcija. Najveći broj bolničkih infekcija prijavile su hiruške klinike, dok je manji broj prijava bio sa internistickih klinika. Za posmatrani period Dečja interna klinika je prijavila 126 bolničkih infekcija (6,4% od ukupnog broja svih prijavljenih bolničkih infekcija). Uzročnici bolničkih infekcija se nisu bitno menjali, osim što su postajali sve rezistentniji, tako da su najčešći MRSA, ESBL sojevi klebsielle, e.coli, kao i acinetobacter .

Zaključak: Sa godinama broj bolničkih infekcija raste. Na internističkim klinikama MRSA, ESBL, e. coli i klebsielle, kao i acinetobakter sojevi su najčešći uzročnici bolničkih infekcija. Kao posledica toga produžuje se broj dana hospitalizacije, a samim tim i mogućnost za održanje i širenje bolničkih infekcija. Sve je manji spektar lekova za terapiju, zbog sve veće rezistencije uzročnika.

Abstract

Introduction: Healthcare-associated infection is an infection that occurred in a patient or staff in a hospital, in some other health or social institution during the provision of health care and became evident on the third day of hospitalization or symptoms appeared on admission, and no more than 48 hours have passed since the previous discharge from the hospital, i.e. if the infection is determined to be related to the surgical intervention and manifests itself after 30 days of the intervention if no implant was installed, i.e. 90 days if the implant was installed.

Aims: To look at the frequency of occurrence of all hospital infections (by localization, causative agent, and resistance) by clinics in the University Clinical Center Niš, with a special focus on the Children's Internal Medicine Clinic, in the period from 2012 to 2021.

Material and method of work: A descriptive method of work was applied. Reports of hospital infections and annual reports of the Public Health Institute in Niš, as well as protocols of the Center for Microbiology of the Public Health Institute in Niš were used as a data source.

Results: In the period from 2012 to 2021, 1967 healthcare-associated infections were reported. The largest number of these infections were reported by surgical clinics, while a smaller number of reports were from internal medicine clinics. For the observed period, the Children's Internal Medicine Clinic reported 126 infections (6.4% of the total number of all reported infections). The causative agents of healthcare-associated infections have not changed significantly, except that they have become more and more resistant, so the most common are MRSA, ESBL strains, Klebsiella, Escherichia Coli, as well as Acinetobacter.

Conclusion: Over the years, the number of these infections increases. In internal medicine clinics, MRSA, ESBL, Escherichia Coli, and Klebsiella, as well as Acinetobacter strains are the most common causes of hospital infections. As a result, the number of days of hospitalization is extended, and thus the possibility for the maintenance and spread of hospital infections. The spectrum of drugs for therapy is decreasing, due to the increasing resistance of the causative agent.

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APSTRAKT 12S 2023; 4(2): 45–45 ABSTRACT 12S

Herpes zoster
Shingles (Herpes Zoster)

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Apstrakt

Herpes zoster je infektivna dermatoza, sa unilateralnom lokalizacijom u predelu dermatoma, sa vezikulama kao dominantnom uflorescencijom.

Etiopatogeneza: Izazivač oboljenja je Varicella / Zoster virus. Primarna infekcija se javlja u detinjstvu i ispoljava se kao varičela. Nakon toga virus se smešta u ganglione kranijalnih nerava i zadnjih korenova kičmene moždine, gde ostaje u latentnom stanju. Virus se aktivira usled pada imuniteta domaćina (zamor, imunosupresija, infekcije...). Virus se najpre umnožava u ganglion, gde izaziva nekrozu i inflamaciju neurona, zatim zapaljenje senzitivnih nerava preko kojih dospeva u kožu, u predelu dermatoma, gde daje karakterističnu kliničku sliku.

Klinička slika: Oboljenje se javlja u većini slučajeva kod odraslih, starijih od 50 godina. Oboleli su infektivni 7 dana od izbijanja promena, kada kod dece koja su bila u kontaktu može nastati varičela. Prvi i karakterističan znak u većini slučajeva je bol u predelu dermatoma, koji prethodi kožnim promenama. Promene su unilateralne, lokalizovane na zoni koju inerviše zahvaćeni nerv i ne prelazi srednju liniju tela. Ispoljavaju se u vidu sitnih, grupisanih vezikula, na eritematoznoj osnovi, tokom 4–5 dana, a zatim se pretvaraju u pustule. Posle 7–10 dana vezikule/pustule se sasušuju, ostavljaju za sobom kruste koje iščezavaju posle 3–4 nedelje. Mogu se javiti i superinfekcije piogenim mikroorganizmima.

Ponekad može doći do motornih pareza, koje su prolazne.

Opšti simptomi su obično blagi, izuzev bola. Može se javiti uvećanje regionalnih lgl. Kod starijih iznad 60 godina česte su postherpetične neuralgije, koje se povlače nakon 6 meseci.

Posebna dva oblika bolesti su herpes zoster gangrenosus i herpes zoster disseminatus, koji se javljaju kod imunosuprimiranih osoba, i praćeni su težim poremećajem opšteg stanja, kada je potrebno ispitivanje u pravcu visceralnog maligniteta i limfoma.

Lečenje: Opšte lečenje: aciklovir tbl koje treba uvesti u okviru 48 časova posle pojave promena na koži; oralno 800 mg, 5 puta dnevno, 5–10 dana. Kod težih slučajeva se primenjuje intavenski 10 mg/kg, na 8 sati, 7 dana. Novi antivirusni lekovi, koji potiskuju aciklovir, su valaciklovir i famciklovir, koji još uvek kod nas nisu odobreni. Zbog pruritusa, ako pacijent navodi, daju se antihistaminici, a zbog bolova analgetici. Lokalno lečenje: pranje vodom i sapunom, potom lokalno antibiotska mast, preporučuje se i talk.

Abstract

Shingles or Herpes zoster is an infectious dermatosis, with unilateral localization in the region of the dermatome, with vesicles as the dominant efflorescence.

Etiopathogenesis: The causative agent of the disease is the Varicella / Zoster virus. The primary infection occurs in childhood and manifests itself as chicken pox. After that, the virus settles in the ganglions of the cranial nerves and the back roots of the spinal cord, where it remains in a latent state. The virus is activated due to a drop in the host's immunity (fatigue, immunosuppression, infections...). The virus first multiplies in the ganglion, where it causes necrosis and inflammation of neurons, then inflammation of sensitive nerves through which it reaches the skin, in the area of the dermatome, where it presents a specific clinical picture.

Clinical picture: The disease occurs in most cases among adults, older than 50 years. They are contagious for 7 days from the onset of changes when children who have been in contact can develop varicella. The first and characteristic sign in most cases is a pain in the area of the dermatome, which precedes skin changes. The changes are unilateral, localized on the zone innervated by the affected nerve, and do not cross the midline of the body. They appear in the form of small, grouped vesicles, on an erythematous basis, for 4-5 days, and then turn into pustules. After 7-10 days, the vesicles/pustules dry up, leaving behind crusts that disappear after 3-4 weeks. Superinfections with pyogenic microorganisms can also occur.

Sometimes there may be motor paresis, which is transient.

General symptoms are usually mild, except for pain. Regional lymph glands may enlarge. Postherpetic neuralgias are common in the elderly over 60 years old and disappear after 6 months.

Special two forms of the disease are herpes zoster gangrenous and herpes zoster disseminates, which occur in immunosuppressed persons, and are accompanied by a more severe disorder of the general condition when an examination in the direction of visceral malignancy and lymphoma is required.

Treatment: General treatment: acyclovir tablets that should be introduced within 48 hours after the appearance of skin changes; orally 800 mg, 5 times a day, 5 – 10 days. In more severe cases, an intravenous dose of 10 mg/kg is administered every 8 hours for 7 days. New antiviral drugs, which suppress acyclovir, are valacyclovir and famciclovir, which are not yet approved in our country. For pruritus, if the patient states, antihistamines are given, and for pain, analgesics. Local treatment: washing with soap and water, then local antibiotic ointment, and talcum powder is also recommended.

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APSTRAKT 13S 2023; 4(2): 46–46 ABSTRACT 13S

Značaj imunizacije protiv humanog papiloma virusa
Importance of Immunization Against Human Papiloma Virus

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Apstrakt

U Srbiji je rak grlića materice četvrta vodeća lokalizacija u obolevanju i umiranju od malignih tumora kod žena. Stopa incidencije je najveća u Zapadnobačkom, Rasinskom i Pčinjskom okrugu. Najviše stope mortaliteta beleže se u Kolubarskom, Zapadnobačkom i Rasinskom okrugu.

Prema preporukama Svetske zdravstvene organizacije, imunizacija protiv oboljenja izazvanih Humanim papiloma virusom (HPV) preporučuje se kada je prevencija raka grlića materice javnozdravstveni prioritet i kada postoji ekonomska održivost imunizacije u dužem periodu. Primarna prevencija oboljenja izazvanih HPV se sprovodi kroz primarnu prevenciju primenom opštih mera i imunizacijom u cilju smanjenja broja obolelih od HPV infekcija, ali i očuvanjem i unapređenjem zdravlja stanovništva sprovođenjem zdravstveno-vaspitnih mera.

Devetovalentna vakcina koja sadrži tipove 6, 11, 16, 18, 31, 33, 45, 52, 58 je trenutno na raspolaganju za primenu u Srbiji i odobrena je za primenu kod žena i muškaraca uzrasta od 9 godina i starijih, za prevenciju premalignih i malignih lezija cerviksa, vulve, vagine i anusa i prevenciju anogenitalnih bradavica izazvanih specifičnim tipovima HPV. HPV vakcine su visoko imunogene i više od 99% primalaca razvija odgovarajući nivo antitela na tipove HPV uključene u vakcinu, mesec dana posle kompletne serije.

Evidentna je neophodnost edukacije pre svega zdravstvenih radnika, a potom i opšte populacije, o značaju vakcine protiv HPV i njenim povoljnim efektima, koji se ogledaju u visokoj bezbednosti, odličnoj podnošljivosti, visokoj serokonverziji, tipski specifičnom imunitetu, prevenciji 90–100% perzistentnih hroničnih infekcija i citoloških poremećaja i zaštiti od 70% svih vrsta raka grlića materice.

Abstract

In Serbia, cervical cancer is the fourth leading localization in morbidity and mortality from malignant tumors in women. The incidence rate is highest in Zapadnobački, Rasin, and Pčinj districts. The highest mortality rates are recorded in Kolubara, Zapadnobački, and Rasina districts.

According to the recommendations of the World Health Organization, immunization against diseases caused by the Human Papilloma Virus (HPV) is recommended when the prevention of cervical cancer is a public health priority and when there is economic sustainability of immunization in the long term. Primary prevention of diseases caused by HPV is carried out through primary prevention by applying general measures and immunization in order to reduce the number of people suffering from HPV infections, but also by preserving and improving the health of the population by implementing health and educational measures.

The nine-valent vaccine containing types 6, 11, 16, 18, 31, 33, 45, 52, 58 is currently available for use in Serbia and is approved for use in female and male persons aged 9 years and older, for the prevention of premalignant and malignant lesions of the cervix, vulva, vagina and anus and prevention of anogenital warts caused by specific types of HPV. HPV vaccines are highly immunogenic and more than 99% of recipients develop adequate levels of antibodies to the HPV types included in the vaccine, one month after the complete series.

It is evident the necessity of educating healthcare workers, and then the general population, about the importance of the HPV vaccine and its beneficial effects, which are reflected in high safety, excellent tolerability, high seroconversion, type-specific immunity, prevention of 90-100% of persistent chronic infections and cytological disorders and protection against 70% of all types of cervical cancer.

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APSTRAKT 14S 2023; 4(2): 47–48 ABSTRACT 14S

Disfunkcija sakroilijačnog zgloba kao uzrok bola u leđima

Sacroiliac Joint Dysfunction as a Cause of Back Pain

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Apstrakt

Kada govorimo o bolu u donjem delu leđa i lumboišijalgiji, najčešće to povezujemo sa degenerativnim oboljenjem kičmenog stuba i lumbalnom diskus hernijom, na osnovu obrasca i lokalizacije bola i kliničkih simptoma koji odgovaraju iritaciji ili kompresiji korena nerva. U tom slučaju se zanemaruje uloga disfunkcije sakroilijačnog zgloba, kao mogućeg izvora bola u donjem delu leđa, čija je prevalenca oko 15–30 % od ukupnog broja pacijenata sa lumbalnim bolom.

Sakroilijačni (SI) zglob je parni sinovijalni zglob koga obrazuje sakrum sa ilijačnim kostima, čineći tako celinu karličnog prstena i temelj na kome je postavljen kičmeni stub. Zglobne površine su oblika uha sa individualnim i polnim razlikama u veličini i obliku. Ilijačne su prekrivene fibroznom, a sakralne hijalinom hrskavicom koja je tri puta deblja. Zglobna kapsula je ispunjena sinovijalnom tečnošću, a njena vlakna se mešaju sa vlaknima sakroilijačnih ligamenata, koji je pojačavaju i daju zglobu stabilnost. Ligamenti su jako snažni i dozvoljavaju minimalnu pokretljivost zgloba u vidu klizanja, prednjeg i zadnjeg naginjanja (inklinacije, nutacije), rotacije i translacije. Pokretljivost je ograničena na jedan do tri stepena rotacije i oko 1,6 mm translacije.

Ligamenti nisu samo pasivni stabilizatori zgloba, već predstavljaju i receptivne organe zbog prisustva mnoštva mehanoreceptora i nociceptora. Inervacija zadnjeg aspekta zgloba potiče od dorzalnih grana L4-S3, a prednji aspekt zgloba inervišu zadnje grane L1-S2, kao i direktne grane obturatornog, glutealnog nerva i lumbosakralnog stabla.

Disfunkcija SI zgloba može biti ekstraartikularne i intraartikularne etiologije, izazvana traumom (fraktura, disrupcija ligamenata, prenaprezanje kapsule, tetiva, mišića, fascije, enteza), oštećenjem hrskavice u sklopu degenerativnih, zapaljenjskih i metaboličkih reumatskih bolesti ili infekcije, dislokacijom zgloba usled prekomernog podizanja tereta, torzionog naprezanja, produženog naprezanja kod atletskih aktivnosti, pogotovu asimetričnih hipomobilnosti ili hipermobilnosti zgloba nastalih sekundarno zbog skolioze, razlike u dužini DE, spinalne fuzije, trudnoće (usled povećanog nivoa estrogena i relaksina), a može biti i posledica primarnih tumora SI zgloba ili metastaza u karlici.

Kriterijume za dijagnostiku i evaluaciju disfunkcije SI zgloba definisalo je Međunarodno udruženje za proučavanje bola, i to su: lokalizovani bol u SI zglobu koji se izaziva provokativnim testovima i manevrima (Patrikov test, test distrakcije SIPS, test kompresije, PA spring test sakruma) i smanjenje ili prestanak bola nakon infiltracije zgloba lokalnim anestetikom.

Abstract

When we talk about lower back pain and sciatica, we most often associate it with degenerative diseases of the spinal column and lumbar disc herniation, based on the pattern and localization of pain and clinical symptoms that correspond to nerve root irritation or compression. In this case, the role of dysfunction of the sacroiliac joint, as a possible source of pain in the lower back, whose prevalence is around 15-30% of the total number of patients with lumbar pain, is ignored.

The sacroiliac (SI) joint is a paired synovial joint formed by the sacrum with the iliac bones, thus forming the entirety of the pelvic ring and the foundation on which the spinal column is placed. The articular surfaces are ear-shaped with individual and gender differences in size and shape. The iliac ones are covered with fibrous cartilage, and the sacral ones with hyaline cartilage, which is three times thicker. The joint capsule is filled with synovial fluid, and its fibers mix with the fibers of the sacroiliac ligaments, which strengthen it and give the joint stability. The ligaments are very strong and allow minimal joint mobility in the form of sliding, anterior and posterior tilting (inclination, nutation), rotation, and translation. Mobility is limited to one to three degrees of rotation and about 1.6 mm of translation.

Ligaments are not only passive stabilizers of the joint but also represent receptive organs due to the presence of many mechanoreceptors and nociceptors. Innervation of the posterior aspect of the joint originates from the dorsal branches of L4-S3, and the anterior aspect of the joint is innervated by the posterior branches of L1-S2, as well as direct branches of the obturator, gluteal nerve, and lumbosacral trunk.

Dysfunction of the SI joint can be of extra-articular and intra-articular etiology, caused by trauma (fracture, disruption of ligaments, overstrain of the capsule, tendons, muscles, fascia, enthesis), cartilage damage as part of degenerative, inflammatory, and metabolic rheumatic diseases or infection, joint dislocation due to excessive lifting of loads, torsion stress, prolonged stress during athletic activities, especially asymmetric joint hypomobility or hypermobility secondary to scoliosis, DE length difference, spinal fusion, pregnancy (due to increased levels of estrogen and relaxin), and may also be the result of primary SI joint tumors or metastases in the pelvis.

The criteria for the diagnosis and evaluation of SI joint dysfunction have been defined by the International Association for the Study of Pain, and they are localized pain in the SI joint that is provoked by provocative tests and maneuvers (Patrick's test, SIPS distraction test, compression test, PA spring test of the sacrum) and reduction or cessation of pain after infiltration of the

Lokalizovani bol nastaje u predelu SIPS i ograničen je na površinu do 10 h3 cm. Odraženi bol nastaje usled intimnog kontakta zgloba sa L5 korenom i lumbosakralnim pleksusom. To objašnjava preklapanje simptoma sa L5/S1 radikulopatijom.

Disfunkcija SI zgloba dovodi do inhibicije mišićne aktivnosti gluteusa maksimusa i spazma ilijakusa, piriformisa i kvadratus lumboruma na aficiranoj strani, pomeranja karlice ka suprotnoj strani i slabosti gluteus medijusa suprotne strane. Ovakav disbalans mišićne snage dovodi do poremećaja tajminga aktivacije mišića tokom aktivnosti i lumbosakralne nestabilnosti.

Terapijski pristup treba biti prilagođen etiologiji disfunkcije i kliničkom nalazu. U fizioterapiji se primenjuju analgetske elektroprocedure, laser, magnet, termoterapija, hidroterapija i hidrokineziterapija, kineziotejping, manuelna terapija (ishemična kompresija triger tačaka, mobilizacione i manipulativne tehnike) kineziterapija, u cilju uspostavljanja mišićnog balansa (vežbe istezanja, snage i koordinacije), korekcije posture.

joint with a local anesthetic. Localized pain occurs in the SIPS area and is limited to an area of up to 10 x 3 cm. Reflected pain occurs due to the intimate contact of the joint with the L5 root and the lumbosacral plexus. This explains the overlap of symptoms with L5/S1 radiculopathy.

Dysfunction of the SI joint leads to inhibition of gluteus maximus muscle activity and spasms of the iliacus, piriformis, and quadratus lumborum on the affected side, movement of the pelvis to the opposite side, and weakness of the gluteus medius of the opposite side. This imbalance of muscle strength leads to disruption of the timing of muscle activation during activity and lumbosacral instability.

The therapeutic approach should be adapted to the etiology of the dysfunction and the clinical findings. Physiotherapy uses analgesic electro procedures, laser, magnet, thermotherapy, hydrotherapy and hydro kinesitherapy, Kinesio taping, and manual therapy (ischemic compression of trigger points, mobilization, and manipulative techniques), kinesitherapy, in order to establish muscle balance (stretching, strength and coordination exercises), posture correction.

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Značaj i saradnja doktora medicine i stomatologa u lečenju bolesti usne duplje kod onkoloških pacijenata

The Significance and Collaboration of Doctors and Dentists in the Treatment of Oral Cavity Disease in Oncological Patients

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Apstrakt

Uvod: Oralno zdravlje je važan segment opšteg zdravlja svake populacije, a posebno je važan kod specifičnih grupa ljudi koji su pod posebnim rizicima u sklopu svog osnovnog oboljenja. Veliku i važnu grupu u populaciji današnjice predstavljaju onkološki pacijenti. Njihovo osnovno oboljenje je samo po sebi specifično i poseban je problem pri bilo kom medicinskom, a posebno pri stomatološkom tretmanu. Osim promena koje su prouzrokovane samom bolešću, specifična terapija i njeni neželjeni efekti na organizam, a samim tim i usnu duplju, terapijski su izazov sam po sebi. Ove promene mogu da daju manifestacije u usnoj duplji u sklopu primarnih promena, ali i kao sekundarne manifestacije maligne bolesti ili komplikacije terapije.

Cilj rada: Sagledavanje tipova i opsežnosti promena u usnoj duplji kod onkoloških pacijenata i mogućnosti preveniranja njihovog nastanka, kao i mogućnosti tretmana.

Rezultat: U radu je prikazan slučaj i ukazano je na značaj saradnje doktora medicine i stomatologa u prevenciji i lečenju bolesti zuba i usta kod onkoloških pacijenata.

Zaključak: Od izuzetne je važnosti saradnja doktora medicine i stomatologa u prevenciji i lečenju bolesti usta i zuba kod onkoloških pacijenata. Ranim otkrivanjem ovih problema moguće je sprečiti nastanak ili ublažiti većinu simptoma ovih stanja, što je posebno značajno u poboljšanju kvaliteta života ovih pacijenata.

Abstract

Introduction: Oral health is an important segment of the general health of any population, and it is especially important in specific groups of people who are at special risk as part of their underlying disease. Oncology patients represent a large and important group in today's population. Their underlying illness is specific in itself and is a special problem with any medical, and especially dental, treatment. Apart from the changes caused by the disease itself, the specific therapy and its side effects on the body, and thus on the oral cavity, are a therapeutic challenge in themselves. These changes can manifest in the oral cavity as part of primary changes, but also as secondary manifestations of malignant disease or complications of therapy.

Aims: Reviewing the types and extent of changes in the oral cavity in oncology patients and the possibility of preventing their occurrence, as well as the possibility of treatment.

Results: The paper presents a case and points out the importance of cooperation between medical doctors and dentists in the prevention and treatment of dental and mouth diseases in oncology patients.

Conclusion: The cooperation of medical doctors and dentists is extremely important in the prevention and treatment of oral and dental diseases in oncology patients. By early detection of these problems, it is possible to prevent the onset or alleviate most of the symptoms of these conditions, which is particularly important in improving the quality of life of these patients.

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Izgaranje na poslu kod zdravstvenih radnika
Burnout at Work among Healthcare Workers

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Apstrakt

Sindrom sagorevanja ili „burnout sindrom" predstavlja stanje emocionalne, fizičke i mentalne iscrpljenosti uzrokovano prekomernim i produženim stresom, a karakteriše ga emocionalna iscrpljenost, depersonalizacija i nisko lično postignuće. Termin je u upotrebu uveo psiholog Herbert Frojdenberger 1974. godine, koji ga je definisao kao izumiranje motivacije ili podsticaja, naročito tamo gde nečija privrženost ili odnos prema poslu ne daju željene rezultate. „Burnout sindrom" se javlja kao prolongirani odgovor na hronični stres na poslu. On obuhvata promenjen doživljaj kako sebe, tako i drugih. Pojavljuje se kada se osoba oseća preopterećeno, emocionalno iscrpljeno i nesposobno da ispuni svakodnevne zahteve. Uglavnom pogađa ljude sa mnogo radnih obaveza, konstantno izloženih stresu, one koji su sve manje u stanju da odgovore i poslovnim i privatnim obavezama.

Sindrom sagorevanja na radu je prisutan kod 48–69% ljudi u Japanu i Tajvanu, kod oko 20% u SAD i kod oko 28% ljudi u državama EU, uglavnom kod osoba koje obavljaju poslove vezane za rad i komunikaciju sa ljudima. Učestalost se razlikuje među zemljama u Evropskoj uniji (10%) i van nje (17%). U Evropskoj uniji je najređe u Finskoj (4,3%) a najčešće u Sloveniji (20,6%). Van Evropske unije najređe je u Albaniji (13%), a najčešće u Turskoj (25%). Učestalost sindroma sagorevanja je dvostruko veća u medicinskoj profesiji u odnosu na prosek. Prisutan je kod 27–60% zdravstvenog osoblja. Najpre je otkriven kod medicinskog osoblja koje radi u odeljenjima psihijatrije, na odeljenjima intenzivne nege bolesnika, kod hirurga, a kasnije i kod drugih. Nađena je veoma visoka povezanost ovog sindroma i stresa u ispitivanoj populaciji. Najčešći stresovi su: preopterećenost poslom, administrativni poslovi i pritisak vremenskih rokova (nedovoljno vreme predviđeno za pregled). Najveći procenat lekara je bio kandidat za sindrom sagorevanja i češće su to bili specijalisti opšte medicine. Sa porastom nivoa stresa, raste i pojava sindroma sagorevanja. U Americi je 37.9% lekara izgarano, pri čemu je češći slučaj kod žena. Najčešći je na odeljenjima urologije (54%), neurologije (50%) i nerfrologije (49%). Između 25% i 33% medicinskih sestara u intenzivnim jedinicama ima sva tri klasična simptoma izgaranja, 86% ima barem jedan simptom. Uzroci nastanka sindroma sagorevanja na radu u zdravstvenim ustanovama su stres, težak, komplikovan i emotivno zahtevan odnos sa bolesnikom i teškoće vezane za organizaciju posla. Kombinacija visokih zahteva radnog mesta i niska autonomija zaposlenih, izražena emocionalna iscrpljenost posebno utiču na pojavu sindroma sagorevanja na poslu. Sindrom nastaje kao posledica neusaglašenih odnosa između zaposlenih i radne sredine, kao prolongiranog odgovora na hronične emocionalne i interpersonalne profesionalne stresove. Posebno su podložne osobe koje teže perfekcionizmu, imaju nerealno visoka očekivanja i

Abstract

Burnout syndrome is a state of emotional, physical, and mental exhaustion caused by excessive and prolonged stress, characterized by emotional exhaustion, depersonalization, and low personal achievement. The term was coined by psychologist Herbert Freudenberger in 1974, who defined it as the extinction of motivation or incentive, especially where one's commitment or attitude towards work does not produce the desired results. "Burnout syndrome" occurs as a prolonged response to chronic stress at work. It includes a changed experience of both oneself and others. It occurs when a person feels overwhelmed, emotionally exhausted, and unable to meet daily demands. It mainly affects people with many work obligations, constantly exposed to stress, and those who are less and less able to respond to both business and private obligations

Burnout syndrome at work is present in 48-69% of people in Japan and Taiwan, in about 20% in the USA, and in about 28% of people in EU countries, mainly in people who perform tasks related to work and communication with people. The frequency differs between countries in the European Union (10%) and outside it (17%). In the European Union, it is rarest in Finland (4.3%) and most common in Slovenia (20.6%). Outside the European Union, it is rarest in Albania (13%), and most common in Turkey (25%). The incidence of burnout syndrome is twice as high in the medical profession as compared to the average. It is present in 27 - 60% of health personnel. It was first discovered among medical staff working in psychiatric wards, intensive care units, surgeons, and later among others. A very high correlation between this syndrome and stress was found in the studied population. The most common stresses are work overload, administrative tasks, and the pressure of deadlines (insufficient time allotted for the review). The highest percentage of doctors were candidates for burnout syndrome and more often they were specialists in general medicine. As the stress level increases, so does the occurrence of burnout syndrome. In America, 37.9% of doctors are burned out, with the case being more common among women. It is most common in the departments of urology (54%), neurology (50%), and neurology (49%). Between 25% and 33% of nurses in intensive care units have all three classic symptoms of burnout, and 86% have at least one symptom. The causes of burnout syndrome at work in healthcare institutions are stress, a difficult, complicated, and emotionally demanding relationship with the patient, and difficulties related to work organization. The combination of high work demands and low employee autonomy expressed emotional exhaustion, especially affecting the occurrence of burnout syndrome at work. The syndrome arises as a consequence of incompatible relations between employees and the working environment, as a prolonged response to chronic emotional and interpersonal professional stress. People who strive for perfectionism, have unrealistically high expectations, and assessments related to their capabilities

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procene vezane za svoje mogućnosti i lični rad. Konflikti vezani za profesionalnu ulogu stvaraju emocionalni zamor, a ambivalentan odnos prema poslu, smanjena podrška saradnika i niska poslovna sposobnost stvaraju osećaj sniženog samovrednovanja i niskog ličnog postignuća.

U prevenciji se primenjuju dve strategije prevazilaženja ovog sindroma, jedna fokusirana na kognitivne funkcije i druga na fizičke aktivnosti i relaksaciju. Rezultati pokazuju da efekti oba programa dovode do značajne redukcije posledica i pojave zamora. Primena individualnih mera koje se odnose na snalaženje sa izazovima kroz učenje veština (relaksacija, učenje komunikacije sa ljudima, sticanje samopouzdanja, meditacija), takođe daju zadovoljavajuće rezultate u praksi.

and personal work are especially susceptible. Conflicts related to the professional role create emotional fatigue, and an ambivalent attitude towards work, reduced support from colleagues and low business ability create a feeling of lowered self-esteem and low personal achievement.

In prevention, two strategies for overcoming this syndrome are applied, one focused on cognitive functions and the other on physical activities and relaxation. The results show that the effects of both programs lead to a significant reduction in the effects and appearance of fatigue. The application of individual measures related to coping with challenges through learning skills (relaxation, learning to communicate with people, gaining self-confidence, meditation) also gives satisfactory results in practice.

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Karcinom crvuljka
Appendix Cancer

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Apstrakt

Apendiks hirurzi često nazivaju „velikim lažovom", jer simptomi bolesti mogu da podsećaju na brojna stanja, kao što su upale i ciste jajnika, žučne kese, kamena u bubregu itd. Slepo crevo je cevasta vrećica dugačka oko 4 inča, nalik prstu, koja se pričvršćuje na prvi deo debelog creva.

Karcinom crvuljka je redak oblik karcinoma koji raste u slepom crevu. Polovina slučajeva je pronađena kod osoba koje su imale operaciju zbog akutnog zapaljenja crvuljka, dok je druga polovina otkrivena tokom CT dijagnostike nepoznatih stanja crvuljka, a veoma mali broj prilikom ginekoloških operacija. Tumori crvuljka se smatraju podtipom neuroendokrinog karcinoma srednjeg creva, koji može nastati u jejunumu, ileumu, slepom crevu ili crvuljku. Ovi tumori nastaju iz ćelija sličnih enterohromafinu u zidu creva i često proizvode serotonin. Učestalost javljanja tumora crvuljka je jako mala i na nivou je od 0,16 do 1 osobe na 1000 stanovnika, ali postoji i procena da je oko 2–9 osoba na million obolelo od ovog oblika raka. Postoje podaci koji pokazuju malu dominaciju kod osoba ženskog pola. Prosečna starost pacijenata je 38–48 godina.

Faktori rizika za nastanak bolesti su: anemija i nedostatak vitamina B12, atrofički gastritis ili dugotrajna upala sluznice želuca, pušenje, nasleđe.

Simptomi su: nadimanja i nadutost trbuha, hronični ili jaki bolovi u stomaku, nelagodnost u donjem delu trbuha, opstrukcija creva, proliv, gubitak apetita, otok trbuha uzrokovan nakupljanjem tečnosti u trbušnoj duplji, masa ili tumor jajnika kod žena.

Tumori crvuljka mogu biti benigni – nekancerozni ili zloćudni – kancerozni, ili prema vrsti mogu biti karcinoidi, adenokarcinoidni i tumori peharastih ćelija crvuljka, koji sporo rastu, počivaju u crvuljku i predstavljaju pola do dve trećine slučajeva. Obično ne izazivaju simptome, osim ako se šire na druge organe. Adenokarcinom crvuljka se javlja u 10% slučajeva raka debelog creva i razvija se na crvuljku, u blizini debelog creva. Nekarcinoidni tumor crvuljka počinje u zidu crvuljka i stvara gustu, lepljivu supstancu – mucin. Adenokarcinom koloidnih ćelija je najređi, ali i najagresivniji oblik raka debelog creva. Adenomi i nemukozni karcinomi se dešavaju veoma retko.

Klinička slika može biti bez simptoma ili može izazvati nejasne simptome koji se često lako zamenjuju sa drugim bolestima, sve dok se ne razvije ozbiljni problem.

Tumori crvuljka, kao i pseudomiksomi peritoneuma zahtevaju urgentno, pre svega operativno lečenje, koje može biti dopunjeno hemioterapijom. U mnogim slučajevima lečenje uključuje citoreduktivnu operaciju uz hipertermičnu intraperitonealnu hemoterapiju. Lekovi se zagrevaju do temperature koja dostiže telesnu

Abstract

Surgeons often call the appendix the "big deceiver", because the symptoms of the disease can resemble many conditions, such as inflammation and cysts of the ovaries, gall bladder, kidney stones, etc. The appendix is a tubular bag about 4 inches long, like a finger, that attaches to the first part of the large intestine.

Carcinoma of the appendix is a rare form of cancer that grows in the appendix. Half of the cases were found in people who had surgery due to acute inflammation of the vermilion, while the other half were discovered during CT diagnostics of unknown conditions of the vermilion, and a very small number during gynecological operations. Colon tumors are considered a subtype of midgut neuroendocrine carcinoma, which can arise in the jejunum, ileum, appendix, or colon. These tumors arise from enterochromaffin-like cells in the intestinal wall and often produce serotonin. The incidence of ringworm tumors is very low and is at the level of 0.16 to 1 person per 1,000 inhabitants, but there is also an estimate that about 2 - 9 people per million are affected by this form of cancer. There are data that show a slight predominance of females. The average age of patients is 38-48 years.

Risk factors for the onset of the disease are anemia and lack of vitamin B12, atrophic gastritis or long-term inflammation of the stomach lining, smoking, and genetics.

Symptoms are abdominal bloating and flatulence, chronic or severe abdominal pain, lower abdominal discomfort, bowel obstruction, diarrhea, loss of appetite, abdominal swelling caused by fluid accumulation in the abdominal cavity, and ovarian mass, or tumor in women.

Tumors of the worm can be benign - non-cancerous or malignant - cancerous, or according to the type they can be carcinoid, adenocarcinoid, and goblet cell tumors of the worm, which grow slowly, rest in the worm, and represent half to two-thirds of cases. They usually do not cause symptoms, unless they spread to other organs. Adenocarcinoma of the colon occurs in 10% of colon cancer cases and develops on the colon, near the colon. A non-carcinoid tumor of the worm begins in the wall of the worm and produces a thick, sticky substance - mucin. Colloid cell adenocarcinoma is the rarest, but also the most aggressive form of colon cancer. Adenomas and non-mucous carcinomas occur very rarely.

The clinical picture can be symptomless or it can cause vague symptoms that are often easily confused with other diseases until a serious problem develops.

Tumors of the worm, as well as pseudomyxomas of the peritoneum, require urgent, first of all, operative treatment, which can be supplemented with chemotherapy. In many cases, treatment involves cytoreductive surgery with hyperthermic intraperitoneal chemotherapy. Medicines are heated to a temperature that

temperaturu pacijenta. Lokalna hemoterapija podrazumeva da hirurg ubacuje cevčicu u trbušnu šupljinu pacijenta kako bi omogućio da se hemoterapija primenjuje direktno na ciljano mesto. Sistemska hemoterapija podrazumeva da se tretmani primenjuju per os ili intravenozno. Za izuzetno retke slučajeve ovih tumora, sa udaljenim metastazama, razmatranje hirurškog lečenja je razumno, ako su metastatske lezije ograničene i mogu se ukloniti. Ovo je sporo rastući, indoletni tip tumora, tako da metastasektomija može pružiti korist i povećati mogući ukupan rizik preživljavanja, iako to nije definitivno prikazano. Za opsežne, neopozive metastaze u jetri ili kod pacijenata koji nisu sposobni za operaciju, pokazalo se da analozi somastotina poboljšavaju preživljenje bez napredovanja bolesti.

reaches the patient's body temperature. Local chemotherapy involves the surgeon inserting a tube into the patient's abdominal cavity to allow the chemotherapy to be administered directly to the target site. Systemic chemotherapy means that treatments are administered per os or intravenously. For the extremely rare cases of these tumors, with distant metastases, consideration of surgical treatment is reasonable, if the metastatic lesions are limited and can be removed. This is a slow-growing, indolent type of tumor, so metastasectomy may provide benefits and possibly increase overall survival risk, although this has not been definitively shown. For extensive, unresectable liver metastases or in patients unfit for surgery, somatostatin analogs have been shown to improve progression-free survival.

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Etiologija i tretman orofacijalnih nepravilnosti i zdravstveno-vaspitni rad kod dece

Etiology and Treatment of Orofacial Disorders and Health and Educational Work in Children

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Apstrakt

Kod mlađih pacijenata kod kojih nije indikovano trajno protetsko rešenje, a prisutna je unilateralna ili bilateralna anodonica bočnih gornjih sekutica, postavlja se pitanje njihovog zadovoljavajućeg funkcionalnog i estetskog zbrinjavanja, sve do mogućnosti izrade trajnih protetskih rešenja, nakon navršenih 18 godina starosti.

Cilj ovog rada bio je da se ukaže na mogućnost multidisciplinarnog pristupa u estetskom i funkcionalnom zbrinjavanju unilateralne i bilateralne anodoncije stalnih gornjh lateralnih sekutića, primenom fiksne ortodoncije i adhezivnih mostova, sve do postave trajnih protetskih rešenja (fiksna protetika, implantologija) nakon navršene 18. godine.

Materijal i metoda: Istraživanja su obuhvatala pacijente oba pola starosti 12–18 godina sa unilateralnim i bilateralnim nedostatkom stalnog gornjeg lateralnog sekutića. Primenom ortodontske terapije fiksnim ortodontskim aparatima izvršeno je prethodno pozicioniranje gornjih kaninunsa u njegov fiziološki položaj radi uspostavljanja pravilnih međuviličnih odnosa. Nakon pozicioniranja očnjaka, postavljeni su adhezivni mostovi bezmetalne strukture (Maryland mostovi) koji su retinirani polietilenskim plazmiranim vlaknima, sa ciljem privremene nadoknade izostalih lateralnih sekutića.

Rezultati: Nakon ortodontskog tretmana postignuto je zatvaranje praznih prostora primenom adhezivnih mostova, kao i privremeno estetsko zbrinjavanje pacijenata u frontalnoj liniji osmeha regije zuba 13 – 32.

Zaključak: Primenom adhezivnih mostova otvorila se značajna mogućnost postizanja zadovoljavajućeg funkcionalnog i estetskog zbrinjavanja nedostatka stalnih gornjih lateralnih sekutića kod mlađih pacijenata, sve do mogućnosti primene trajnijih protetskih rešenja nakon navršenih 18 godina starosti.

Abstract

In younger patients in whom a permanent prosthetic solution is not indicated, and unilateral or bilateral anodynia of the lateral upper incisors is present, the question arises of their satisfactory functional and aesthetic care, up to the possibility of making permanent prosthetic solutions, after reaching the age of 18.

The aim of this work was to point out the possibility of a multidisciplinary approach in the aesthetic and functional treatment of unilateral and bilateral anodontia of permanent upper lateral incisors, using fixed orthodontics and adhesive bridges, up to the placement of permanent prosthetic solutions (fixed prosthetics, implantology) after the age of 18.

Materials and methods: The research included patients of both sexes aged 12-18 years with unilateral and bilateral lack of a permanent upper lateral incisor. By applying orthodontic therapy with fixed orthodontic appliances, the upper canines were previously positioned in their physiological position in order to establish correct interjaw relationships. After the positioning of the canines, metal-free adhesive bridges (Maryland bridges) were placed, which were retained with polyethylene plasma fibers, with the aim of temporarily compensating the missing lateral incisors.

Results: After the orthodontic treatment, the closing of empty spaces was achieved using adhesive bridges, as well as temporary aesthetic treatment of patients in the frontal smile line of the region of teeth 13-32.

Conclusion: The application of adhesive bridges opened up a significant possibility of achieving a satisfactory functional and aesthetic treatment of the lack of permanent upper lateral incisors in younger patients, up to the possibility of applying more permanent prosthetic solutions after reaching the age of 18.

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APSTRAKT 19S 2023; 4(2): 55–56 ABSTRACT 19S

Reorganizacija u zdravstvenim službama u cilju povećanja učinka i produktivnosti radnog procesa

Reorganization in the Health Services with the Aim of Increasing the Effect and Productivity of the Working Process

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Apstrakt

Ključni izazovi razvoja zdravstvenog sistema, kao i službi unutar njega, ogledaju se u potrebi prilagođavanja načina pružanja zdravstvene zaštite, jer će veći broj starijih ljudi sa više hroničnih bolesti zahtevati drugačija lečenja i drugačiji način pružanja zdravstvenih usluga. Osim toga, izazovi epidemija zaraznih bolesti sa kojima se zdravstveni sistemi širom sveta suočavaju u vreme Kovid 19 pandemije, dodatno naglašavaju potrebu za brzim i efikasnim odgovorom, kao i prilagođavanjem zdravstvenih kapaciteta. Dosadašnji načini upravljanja zdravstvenim sistemima postaju zastareli i dugoročno neodrživi. Kako bi se poboljšali ishodi lečenja, potrebno je promeniti ceo sistem, a ne izvršiti parcijalne promene samo nekih procesa koji se smatraju neuspešnim. Potrebna su nova pravila i podsticanje strateškog razmišljanja u svim delovima sistema. Postoje mogućnosti povećanja efikasnosti zdravstvenog sistema na svim nivoima zdravstvene zaštite, kao i unapređenja kvaliteta zdravstvene usluge, što doprinosi poboljšavanju zdravstvenih ishoda: poboljšanju koordinacije zdravstvene zaštite, izbegavanju prekomerne potrošnje resursa i unapređenju sistema finansiranja sistematskom i dugoročnom zdravstvenom politikom i konzistentnim sveobuhvatnim pravnim okvirom sa obavezujućim smernicama. Kao posledica navedenog, finansijski, demografski i socijalni pritisci znatno povećavaju troškove zdravstvene zaštite. Prilagođavanje zdravstvenih sistema novonastalim uslovima potrebno je sprovoditi u okviru stalnih reformi, sa ciljem optimizacije procesa pružanja usluga i istovremeno zadovoljiti potrebe i očekivanja stanovništva. Promenjeni uslovi zahtevaju bolju koordinaciju između različitih nivoa zdravstvene zaštite, brži protok informacija, te efikasnije strategije kojima bi se osigurala odgovornost svih učesnika. Intersektorska, od strane Vlade koordinisana politika, zajednički ciljevi i integrisani odgovori na postojeće probleme i izazove, partnerstvo sa nevladinim i privatnim sektorom osnova su zajedničkog upravljanja, odnosno efikasnog sprovođenja zdravlja u svim politikama. Zdravstveni sektor ima vodeću ulogu u radu sa drugim sektorima i u neposrednoj podršci Vladi u razvoju relevantnih politika i dostizanju njihovih ciljeva. Uspešna primena ovog koncepta zahteva institucionalizovani proces intersektorskog rešavanja problema, utvrđivanje mandata i odgovornosti, inicijativa, finansiranja, budžeta i održivih mehanizama za rad vladinih ustanova u oblasti zdravlja. Ovaj nacrt strategije podržava unapređenje zdravlja, sprečavanje bolesti i produženje kvalitetnog života stanovništva. Takođe, ova strategija je preduslov bržeg razvoja promena, posebno u pogledu ostvarivanja visokog stepena fleksibilnosti bolnica i njihovih resursa kako bi se moglo brzo odgovoriti na trenutne

Abstract

The key challenges of the development of the health system, as well as the services within it, are reflected in the need to adapt the way of providing health care because a larger number of elderly people with multiple chronic diseases will require different treatments and a different way of providing health services. In addition, the challenges of epidemics of infectious diseases that health systems around the world are facing during the Covid 19 pandemic further emphasize the need for a quick and effective response, as well as adaptation of health capacities. The previous ways of managing health systems are becoming outdated and unsustainable in the long term. In order to improve treatment outcomes, it is necessary to change the entire system, and not make partial changes to only some processes that are considered unsuccessful. New rules and encouragement of strategic thinking in all parts of the system are needed. There are opportunities to increase the efficiency of the health system at all levels of health care, as well as improve the quality of health care services, which contributes to improving health outcomes: improving the coordination of health care, avoiding excessive consumption of resources and improving the financing system with a systematic and long-term health policy and a consistent comprehensive legal framework with binding guidelines. As a consequence of the above, financial, demographic, and social pressures significantly increase healthcare costs. Adaptation of health systems to new conditions needs to be carried out within the framework of constant reforms, with the aim of optimizing the process of providing services and at the same time meeting the needs and expectations of the population. The changed conditions require better coordination between different levels of health care, a faster flow of information, and more effective strategies to ensure the responsibility of all participants. Intersectoral policy coordinated by the Government, common goals and integrated responses to existing problems and challenges, and partnership with the non-governmental and private sector are the basis of joint management, i.e. effective implementation of health in all policies. The health sector has a leading role in working with other sectors and indirectly supporting the Government in developing relevant policies and achieving its goals. Successful implementation of this concept requires an institutionalized process of intersectoral problem solving, determination of mandates and responsibilities, initiatives, funding, budgets, and sustainable mechanisms for the work of government institutions in the field of health. This draft strategy supports improving health, preventing disease, and prolonging the quality of life of the population. Also, this strategy is a prerequisite for faster development of changes, especially in terms of achieving a high degree of flexibility of hospitals and their resources in

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potrebe i očekivanja građana Srbije. Strategijom se podržava društvena briga za zdravlje ljudi i podstiče odgovornost države i društva u obezbeđenju dobrobiti za sve građane, putem unapređenja zdravlja, produženja očekivanog trajanja kvalitetnog života, kao i očuvanja zdrave životne i radne sredine. Strategija je dokument koji utvrđuje opšti okvir za akcije i identifikuje dalje pravce, ostavljajući prostor za rešavanje starih i novih izazova. Ciljevi se ostvaruju kroz sve oblike partnerstva za zdravlje i kroz naglašavanje značaja sveobuhvatnog pristupa putem interdisciplinarnosti i multisektorske saradnje.

order to be able to quickly respond to the current needs and expectations of Serbian citizens. The strategy supports social care for people's health and encourages the responsibility of the state and society in ensuring the well-being of all citizens, by improving health, extending the expected duration of quality life, as well as preserving a healthy living and working environment. The strategy is a document that establishes a general framework for actions and identifies further directions, leaving room for solving old and new challenges. The goals are achieved through all forms of partnership for health and through emphasizing the importance of a comprehensive approach through interdisciplinarity and multisectoral cooperation.

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APSTRAKT 20S 2023; 4(2): 57–57 ABSTRACT 20S

Osteoporoza
Osteoporosis

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Apstrakt

Kost je tkivo koje se stalno obnavlja. Postoji ravnoteža između procesa formiranja i razgradnje kostiju. Do osteoporoze dolazi kada je proces gubitka koštane mase brži od procesa degeneracija. Bolest pogađa i muškarce i žene, naročito žene sa ulaskom u menopauzu, stariju populaciju, belu rasu. Važnu ulogu ima snižen nivo polnih hormona, povećan nivo hormona tiroidne žlezde, kod bubrega i ponotidne žlezde, kao i nizak nivo kalcijuma, poremećaj u ishrani.

Rizik od osteoporoze veći je kod hroničnih bolesti, celiakije, zapaljenjske bolesti creva, gastro-ezofijagnog refluksa, reumatidnog artritisa, malignih bolesti, lupusa. U riziku su i pacijenti koji dugo koriste kortikosteroide, antiepileptike.

Komplikacije osteoporoze su prelomi kostiju, naročito kičmenih pršljenova i kuka, čak i sa minimalnim povredama.

Prevencija osteoporoze podrazumeva kvalitetnu ishranu, redovnu fizičku aktivnost, održavanje optimalne fizičke aktivnosti i unošenje dovoljne količine kalcijuma, bilo kroz ishranu, bilo kroz unos kao dodatka ishrani, kao i unos vitamina D.

Lečenje osteoproze uključuje primenu lekova bifosfonata.

Abstract

Bone is a tissue that is constantly renewed. There is a balance between the process of bone formation and breakdown. Osteoporosis occurs when the process of bone mass loss is faster than the process of degeneration. The disease affects both men and women, especially women entering menopause, the elderly population, white race. An important role is played by a decreased level of sex hormones, an increased level of thyroid hormone, in the kidney and hypothyroid gland, as well as a low level of calcium, a nutritional disorder.

The risk of osteoporosis is higher in chronic diseases, celiac disease, inflammatory bowel disease, gastroesophageal reflux, rheumatoid arthritis, malignant diseases, and lupus. Patients who use corticosteroids and antiepileptics for a long time are also at risk.

Complications of osteoporosis are bone fractures, especially of the spinal vertebrae and hips, even with minimal injuries.

Prevention of osteoporosis implies a quality diet, regular physical activity, maintenance of optimal physical activity, and intake of a sufficient amount of calcium, either through diet or intake as a dietary supplement, as well as intake of vitamin D.

Treatment of osteoporosis involves the use of bisphosphonate drugs.

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APSTRAKT 21S 2023; 4(2): 58–58 ABSTRACT 21S

Kovid i plazmafereze
Covid and Plasmapheresis

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Apstrakt

Uvod: Kovid pandemija uspostavila je vezu između naočigled nespojivih oblasti medicine, jer sama terapija ovog virusnog oboljenja, a i terapija posledica koje ostaju kod jednog broja bolesnika, zahtevaju multidisciplinarni pristup. Stoga nije neobično da se jednom takvom oboljenju pristupa i iz ugla donorskih, a i terapijskih plazmafereza. Donorska procedura je ona kojom se prikuplja plazma kovid rekonvalescenata, bogata antikovid antitelima, koja su pokazala neke pozitivne rezultate nakon aplikovanja bolesnicima, a terapijske procedure su one koje su deo tretmana kod nekih hematoloških i mahom neuroloških bolesti, izazvanih kovidom ili nastalih nakon preležane bolesti.

Rezultati: Donorske kovid plazmafereze, kao deo programa Ministarstva zdravlja i Instituta za transfuziju krvi Srbije, izvodili smo u jeku pandemije tokom 2020. godine, jer je pre pojave antikovid vakcine postojalo stanovište da će hiperimuni serum (plazma kovid rekonvalescenta) imati određene terapijske efekte. Izvedeno je ukupno 100 procedura, a kvalitet produkta zavisio je od titra antitela (najniži prihvaćeni davalac imao je titar 6,8, a najviši 130). Terapijske kovid plazmafereze radili smo kod 5 pacijenata na Klinici za neurologiju (3 sa postkovid razvijenim sidromom g. bare i dva sa postkovid mijastenijom gravis) i jedan na Klinici za hematologiju (kovidom prouzrokovana egzacerbacija TTP).

Zaključak: Transfuzijska medicina i kovid su usko povezani, u terapijskim procedurama i laboratorijskim pretragama tokom same bolesti i nakon saniranja posledica koje ova pošast ostavlja za sobom.

Abstract

Introduction: The Covid pandemic has established a connection between apparently incompatible areas of medicine, because the therapy of this viral disease itself, and the therapy of the consequences that remain in a number of patients, require a multidisciplinary approach. Therefore, it is not unusual to approach such a disease from the point of view of donor and therapeutic plasmapheresis. The donor procedure is the one that collects the plasma of covid convalescents, rich in anti-covid antibodies, which have shown some positive results after being applied to patients, and the therapeutic procedures are those that are part of the treatment for some hematological and mostly neurological diseases, caused by covid or occurring after an illness.

Results: Donor covid plasmapheresis, as part of the program of the Ministry of Health and the Blood Transfusion Institute of Serbia, was performed in the middle of the pandemic in 2020, because before the advent of the anti-covid vaccine, there was an opinion that hyperimmune serum (plasma of convalescent covid) would have certain therapeutic effects. A total of 100 procedures were performed, and the quality of the product depended on the antibody titer (the lowest accepted donor had a titer of 6.8, and the highest was 130). We performed therapeutic covid plasmapheresis in 5 patients at the Clinic for Neurology (3 with the post-covid developed syndrome of g. Bare and two with post-covid myasthenia gravis) and one at the Hematology Clinic (exacerbation of TTP caused by covid).

Conclusion: Transfusion medicine and covid are closely related, in therapeutic procedures and laboratory tests during the disease itself and after the healing of the consequences that this scourge leaves behind.

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APSTRAKT 22S 2023; 4(2): 59–59 ABSTRACT 22S

Rehabilitacija pacijenata nakon ugradnje endoproteze kuka

Rehabilitation of Patients after Installation of Hip Endoprosthesis

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Apstrakt

Artroplastika kuka je postupak ugradnje totalne endoproteze kuka čime se implantantima zamenjuju femoralni i acetabularni deo zgloba. Osteoartritis kuka je najčešća indikacija za ugradnju totalne endoproteze kuka. Proces rehabilitacije, nakon ugradnje totalne endoproteze kuka, može se podeliti na preoperativnu i postoperativnu rehabilitaciju. Cilj preoperativne rehabilitacije je omogućiti pacijentu što kvalitetniju podlogu za sprovođenje postoperativne rehabilitacije. Postoperativni rehabilitacioni program osmišljen je s ciljem povratka pune pokretljivosti zgloba kuka nakon ugradnje totalne endoproteze kuka, prevencije vaskularnih i pulmonarnih komplikacija, povratka svakodnevnim aktivnostima i radnom mestu. Terapijske vežbe imaju ključnu ulogu u postoperativnoj rehabilitaciji i obuhvataju vežbe opštih pokreta, snaženja mišića. Takođe su bitne i fizikalne procedure elektroterapija, hidroterapija, magnetnoterapija.

Cilj rada je prikazati kako pacijentu omogućiti što kvalitetniju podlogu za sprovođenje postoperativne rehabilitacije.

Edukacija pacijenta je neizostavni deo rehabilitacije. Kompletna rehabilitacija pacijenta je individualna i treba biti prilagođena pacijentu.

Abstract

Hip arthroplasty is the procedure of installing a total hip endoprosthesis, which replaces the femoral and acetabular parts of the joint with implants. Osteoarthritis of the hip is the most common indication for total hip arthroplasty. The rehabilitation process, after the installation of a total hip endoprosthesis, can be divided into preoperative and postoperative rehabilitation. The goal of preoperative rehabilitation is to provide the patient with the best possible basis for the implementation of postoperative rehabilitation. The postoperative rehabilitation program was designed with the aim of returning full mobility of the hip joint after the installation of a total hip endoprosthesis, prevention of vascular and pulmonary complications, and return to daily activities and the workplace. Therapeutic exercises play a key role in postoperative rehabilitation and include exercises for general movements and muscle strengthening. Physical procedures such as electrotherapy, hydrotherapy, and magnetotherapy are also important.

The goal of the paper is to show how to provide the patient with the best possible basis for the implementation of postoperative rehabilitation.

Patient education is an important part of rehabilitation. The complete rehabilitation of the patient is individual and should be adapted to the patient.

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APSTRAKT 23S 2023; 4(2): 60–61 ABSTRACT 23S

Trgovina ljudima
Human Trafficking

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Apstrakt

Uvod: Trgovina ljudima (trafiking) je oblik modernog ropstva i predstavlja zloupotrebu ljudskih bića i povredu njihovih osnovnih ljudskih prava radi sticanja materijalne koristi. Reč je o globalnom fenomenu koji na različite načine pogađa ceo svet. Širom sveta, prema procenama, preko 2,4 miliona dece, žena i muškaraca primorano je na prostituciju, služenje u kućama, rad na poljima, prosjačenje, brakove, na krivična dela i na ostale vidove surove eksploatacije.Trgovina ljudima se svrstava među tri najprofitabilnije kriminalne aktivnosti uz trgovinu drogom i oružjem.

Cilj: Osnovni cilj je širenje znanja i podizanje svesti o trgovini ljudima i preventivno delovanje među mladima i drugim potencijalnim žrtvama. Prevencija u nastojanju da se spreči uvlačenje ljudi u lanac trgovine ljudima podrazumeva edukaciju pojedinaca i grupa da prepoznaju problem, njegove pojavne oblike i načine za uvlačenje ljudi u lanac trgovine, kao i mere zaštite. Takođe, prevencija podrazumeva i razvijanje veština, sposobnosti i umeća za suprostavljanje toj pojavi, načine reakcije na nju i informisanje nadležnih organa o sumnji da postoji problem. Potrebno je smanjiti rizik da mladi ljudi budu uvučeni u lanac trgovine ljudima i podići svest zajednice u celini.

Metoda rada: Primena preventivnih programa u borbi protiv trgovine ljudima od 2008. godine u organizaciji Crvenog krsta Srbije. Sprovodi se edukacija, koristeći metod vršnjačke edukacije koja doprinosi boljem razumevanju i sticanju znanja o osetljivim temama, a sprovode je volonteri Crvenog krsta Velika Plana. Cilj ovog programa je da se utiče na svest građana, a naročito dece i omladine o problemu koji se dešava svuda oko nas. Program obuhvata informativne radionice, tribine, igre aktivnosti, ulične manifestacije, seminare za edukatore.

Rezultati rada: Crveni krst Srbije je od 2005. godine aktivno uključen u napore da se spreči trgovina ljudima, umanje posledice po žrtve i smanji njihov broj. Metodom vršnjačke edukacije volonteri Crvenog krsta preneli su preventivne mere na više od 100.000 osoba pod rizikom. Prema podacima Službe za koordinaciju zaštite trgovine ljudima u Srbiji, od januara do oktobra 2019. godine identifikovane su 73 žrtve trgovine ljudima, od kojih je 65 preživelo patnju, a 8 je potencijalnih. Prema vrsti ekploatacije, 31 žrtva je seksualno eksploatisana, 22 radno ekploatisane, 7 su bile podvrgnute prosjačenju, 4 naterane na prinudni brak, 2 su vršile krivična dela, a kod 1 je bio pokušaj usvajanja. Od ukupnog broja žrtava, 40 je punoletnih, a 33 maloletne. Najčešće žrtve trgovine ljudima su maloletna lica. Ukupno 64% žrtava u 2019. godini su bile žene i devojčice (u 2018. god. 36% i 39%), a veći broj muškaraca bili su žrtve radne eksploatacije.

Abstract

Introduction: Human trafficking (trafficking) is a form of modern slavery and represents the abuse of human beings and the violation of their basic human rights for the purpose of obtaining material benefits. It is a global phenomenon that affects the whole world in different ways. Around the world, according to estimates, over 2.4 million children, women, and men are forced into prostitution, domestic service, fieldwork, begging, marriage, criminal acts, and other forms of cruel exploitation. Human trafficking ranks among the three most profitable criminal activities with drug and weapons trafficking.

Aims: The main goal is to spread knowledge and raise awareness about human trafficking and preventive action among young people and other potential victims. Prevention in an effort to prevent the involvement of people in the chain of human trafficking involves the education of individuals and groups to recognize the problem, its forms, and ways to involve people in the chain of trafficking, as well as protection measures. Also, prevention implies the development of skills, and abilities for confronting this phenomenon, ways of reacting to it and informing the competent authorities about the suspicion that there is a problem. It is necessary to reduce the risk of young people being drawn into the chain of human trafficking and to raise the awareness of the community as a whole.

Methods of work: Implementation of preventive programs in the fight against human trafficking since 2008, organized by the Serbian Red Cross. Education is conducted using the peer education method, which contributes to a better understanding and acquisition of knowledge about sensitive topics and is conducted by volunteers of the Velika Plana Red Cross. The goal of this program is to influence the awareness of citizens, especially children, and youth, about the problem that is happening all around us. The program includes informative workshops, panels, activity games, street events, and seminars for educators.

Results of the work: Since 2005, the Red Cross of Serbia has been actively involved in efforts to prevent human trafficking, reduce the consequences for the victims and reduce their number. Using the method of peer education, Red Cross volunteers passed on preventive measures to more than 100,000 people at risk. According to the data of the Service for the Coordination of the Protection of Human Trafficking in Serbia, from January to October 2019, 73 victims of human trafficking were identified, of which 65 survived the suffering, and 8 are potential victims. According to the type of exploitation, 31 victims were sexually exploited, 22 were labor exploited, 7 were subjected to begging, 4 were forced into a forced marriage, 2 committed criminal acts, and 1 was an attempted adoption. Of the total number of victims, 40 were adults and 33 were minors. The most common victims of human trafficking are minors. A total of 64% of victims in 2019 were women and girls (in 2018: 36% and 39%), and a larger number of men were victims of labor exploitation.

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Zaključak: Ne postoji profil žrtve trgovine ljudima, jer se to može desiti svakome od nas, ali postoje grupe koje su u povećanom riziku da postanu žrtve trgovine ljudima. Nasilje u porodici, siromaštvo, ako je izostala podrška sistema, često je uzrok trgovine ljudima. Sa druge strane, osobe koje dolaze iz ugroženih društvenih grupa, marginalizovane grupe, deca i mladi koji nisu u sistemu obrazovanja, žive i rade na ulici, nezaposleni i oni koji su primorani da posao traže u inostranstvu i kojima nije dostupan sistem socijalne i zdravstvene zaštite, u povećanom su riziku. Ako znamo da su mladi, neobrazovani, nezaposleni, neaktivni nosioci domaćinstva u teškom položaju, samohrani roditelji, osobe sa invaliditetom i njihove porodice, sa sigurnošću možemo da potvrdimo činjenicu da žrtva trgovine ljudima može biti svako.

Conclusion: There is no profile of a victim of human trafficking because it can happen to any of us, but there are groups that are at increased risk of becoming victims of human trafficking. Violence in the family, and poverty, if there is no support from the system, are often the cause of human trafficking. On the other hand, people who come from vulnerable social groups, marginalized groups, children and young people who are not in the education system, live and work on the street, the unemployed, and those who are forced to look for work abroad and to whom the social and health care system is not available, are at increased risk. If we know that young, uneducated, unemployed, inactive heads of households are in a difficult situation, single parents, people with disabilities, and their families, we can confirm with certainty the fact that anyone can be a victim of human trafficking.

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APSTRAKT 24S 2023; 4(2): 62–63 ABSTRACT 24S

Primarna artroplastika kolena
Primary Knee Arthroplasty

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Apstrakt

Totalne artroplastike velikih zglobova su danas veoma efektivne i moderne hirurške intervencije koje oslobađaju pacijente bola i vraćaju funkciju zgloba. Sa starenjem populacije zahtevi za ovim intervencijama kontinuirano rastu. Totalna artroplastika zgloba je hirurška intrevencija u kojoj se oštećeni zglob zamenjuje komponentama endoproteze, obično napravljenim od metala, keramike i veoma čvrste plastike. U savremenoj ortopediji artroplastike kuka i kolena su dve najučestalije i najuspešnije operacije.

U Nemačkoj artroplastika kolena je jedna od najučestalijih hirurških procedura. Većina pacijenata su stariji od 65 godina, ali se sve više zapaža i porast broja mlađih pacijenata koji zahtevaju ovu vrstu operacije.

Totalna artroplastika kolena bila je najučestalija hirurška intervencija u Americi u 2012. godini. Od 2003. do 2012. incidenca totalne artroplastike kolena porasla je od 145.4 do 223.0 pacijenata na 100 000 stanovnika, tj. 4.9% godišnje. Broj urađenih primarnih totalnih artroplastika kolena u 2016. u Americi iznosio je preko 500 000.

Najčešća indikacija za primarnom artroplastikom kolena je uznapredovali osteoartritis kolena koji je udružen sa jakim bolovima, ograničenim pokretima, deformitetom i nestabilnosti kolena, što dovodi do značajnog gubitka kvaliteta života i nemogućnosti obavljanja osnovnih životnih funnkcija. Teška oštećenja zgloba kolena kod hroničnog reumatoidnog artritisa su druga po učestalosti indikacija za primarnom artroplastikom kolena. Kod mlađih pacijenata, stanja nakon intraartikularnih preloma i povreda kolena operativno lečenih, a zbog rane postraumatske artroze i nestabilnosti kolena, mogu biti indikacija za primarnu artroplastiku kolena.

Danas su nam na raspolagnju različiti tipovi totalnih endoproteza kolena. Njihov dizajn i savremeni materijali od kojih su naparavljene, omogućavaju dugi vek trajanja endoproteze kolena (od 15 do 20 godina) uz pun obim pokreta i stabilnost kolena. Totalne cementne endoproteze kolena su i dalje zlatni standard u primarnoj artroplastici kolena, praćene odličnim funkcionalnim rezultatom i održavanjem proteze do 20 godina. Kod mlađih pacijenata danas su na raspoloaganju i bescementne proteze kolena, kojima se izbegava problem trajanja proteze, a i čuva se kvalitet kosti za kasnije revizione operacije.

Najteža komplikacija koja prati primarnu artroplastiku kolena je svakako infekcija. Procenat infekcije u svetskoj literaturi nakon totalne artroplastike kolena kreće se od 2% do 3%. Lečenje infekcije nakon artroplastike kolena je izuzetno dugo i najčešće zahteva više dodatnih hirurških intervencija (ogromni ekonomski troškovi lečenja i prolongirana hospitalizacija). Sama komplikacija ostavlja katastrofalne posledice na zdravstveno stanje pacijenta. Primena antibiotske profilakse i

Abstract

Total arthroplasties of large joints are today very effective and modern surgical interventions that relieve patients of pain and restore joint function. With the aging of the population, the demands for these interventions are continuously growing. Total joint arthroplasty is a surgical intervention in which the damaged joint is replaced with endoprosthetic components, usually made of metal, ceramic, and very hard plastic. In modern orthopedics, hip, and knee arthroplasty are two of the most frequent and successful operations.

In Germany, knee arthroplasty is one of the most common surgical procedures. The majority of patients are over 65 years of age, but an increase in the number of younger patients requiring this type of surgery is increasingly being noticed.

Total knee arthroplasty was the most common surgical procedure in America in 2012. From 2003 to 2012, the incidence of total knee arthroplasty increased from 145.4 to 223.0 patients per 100,000 inhabitants, i.e. 4.9% per year. The number of primary total knee arthroplasties performed in 2016 in America was over 500,000.

The most common indication for primary knee arthroplasty is advanced osteoarthritis of the knee, which is associated with severe pain, limited movements, deformity, and instability of the knee, which leads to a significant loss of quality of life and the inability to perform basic life functions. Severe damage to the knee joint in chronic rheumatoid arthritis is the second most frequent indication for primary knee arthroplasty. In younger patients, conditions after operatively treated intra-articular fractures and knee injuries, and due to early post-traumatic arthrosis and knee instability, may be an indication for primary knee arthroplasty.

Today, we have different types of total knee endoprostheses at our disposal. Their design and modern materials from which they are made, enable a long service life of the knee endoprosthesis (from 15 to 20 years) with a full range of motion and stability of the knee. Total cemented knee arthroplasties are still the gold standard in primary knee arthroplasty, followed by excellent functional results and maintenance of the prosthesis for up to 20 years. For younger patients, cementless knee prostheses are available today, which avoids the problem of the duration of the prosthesis, and preserves the quality of the bone for later revision surgeries.

The most serious complication following primary knee arthroplasty is certainly infection. The percentage of infection in the world literature after total knee arthroplasty ranges from 2% to 3%. Treatment of infection after knee arthroplasty is extremely long and usually requires several additional surgical interventions (huge economic costs of treatment and prolonged hospitalization). The complication itself has catastrophic con-

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što bolji uslovi u operacionoj sali mogu smanjiti učestalost ove komplikacije.

Posebna pažnja u sklopu zdravstvene nege pacijenata koji se podvrgavaju primarnoj artroplastici kolena treba se obratiti na prevenciju infekcije i duboke venske tromboze i ranoj rehabilitaciji.

Savremene hirurške tehnike, kvalitetne totalne endoproteze kolena, adekvatna pre i postoperativna zdravstvena nega i rana rehabilitacija imaju za cilj da smanje postoperativne komplikacije nakon primarne artrolastike kolena i da što pre osposobe pacijenta za normalan i kvalitetan život.

sequences for the patient's health. The application of antibiotic prophylaxis and better conditions in the operating room can reduce the frequency of this complication.

Special attention in the health care of patients undergoing primary knee arthroplasty should be paid to the prevention of infection and deep vein thrombosis and early rehabilitation.

Modern surgical techniques, quality total knee endoprostheses, adequate pre- and post-operative health care, and early rehabilitation aim to reduce post-operative complications after primary knee arthroplasty and to enable the patient to lead a normal and quality life as soon as possible.

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Trauma u ortopediji
Orthopedic Trauma

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Apstrakt

U savremenoj traumatologiji koja se svakodnevno suočava sa različitim oblicima trauma, prvo mesto po težini i značaju pripada politraumi. Politrauma je istovremeni nastanak dve ili više povreda različitih organa ili sistema ljudskog tela od kojih jedna ili njihove kombinacije ugrožavaju život povređenog. Razlog sve veće učestalosti politraume je, u prvom redu, eksplozivni razvoj saobraćaja i posledični saobraćajni traumatizam.

Trauma je glavni uzrok smrti i invalidnosti ljudske populacije ispod 50 godina starosti. Savremenu traumu karakterišu i sve teži oblici, naročito u vidu politraume, koja je praćena najvećim mortalitetom, morbiditetom i invalidnošću.

Prelomi dugih kosti (butna kost, kosti potkolenice, nadlaktna kost, kosti podlaktice) u sklopu politraume imaju, u odnosu na izolovane prelome, veći značaj i u mnogome utiču na tok i ishod politraume. Pravilno lečenje preloma dugih kosti kod politraumatizovanih može značajno smanjiti mortalitet i morbiditet.

Generalni ciljevi rane stabilizacije preloma dugih kosti kod politraumatizovanih su: kontrola krvarenja, supresija lokalnog inflamatornog odgovora i produženo lučenje medijatora zapaljenja, oslobađanje bola i olakšavanje nege i postizanje ranije mobilnosti povređenog u jedinici intenzivne terapije.

Kod lakše politraumatizovanih moguće je primarno zbrinuti prelome dugih kostiju ranom unutrašnjom fiksacijom, kao definitivnom metodom lečenja nakon uspešne reanimacije. Rana unutrašnja fiksacija preloma dugih kosti, kod teško politraumatizovanih, predstavlja veliku i opasnu dodatnu trauma za povređenog i nju je bezbedno uraditi po stabilizaciji opšteg stanja. Spoljna skeletna fiksacija predstavlja bezbednu metodu za postizanje rane inicijalne stabilnosti preloma dugih kosti uz minimalnu dodatnu operativnu traumu. Spoljnu skeletnu fiksaciju preloma dugih kosti kod politraumatizovanih treba transformisati u unutrašnju kad se za to steknu uslovi.

Abstract

In modern traumatology, which deals with various forms of trauma every day, the first place in terms of severity and importance belongs to polytrauma. Polytrauma is the simultaneous occurrence of two or more injuries to different organs or systems of the human body, one of which or their combination endangers the injured person's life. The reason for the increasing frequency of polytrauma is, first of all, the explosive development of traffic and the resulting traffic traumatism.

Trauma is the leading cause of death and disability in the human population under the age of 50. Contemporary trauma is characterized by increasingly severe forms, especially in the form of polytrauma, which is accompanied by the highest mortality, morbidity, and disability.

Fractures of long bones (femur, lower leg, humerus, forearm bones) as part of polytrauma have, compared to isolated fractures, a greater importance and in many ways affect the course and outcome of polytrauma. Proper treatment of long bone fractures in polytraumatized patients can significantly reduce mortality and morbidity.

The general goals of early stabilization of long bone fractures in polytraumatized patients are control of bleeding, suppression of local inflammatory response and prolonged secretion of inflammatory mediators, relief of pain and facilitation of care, and earlier mobility of the injured in the intensive care unit.

In mildly polytraumatized patients, it is possible to primarily treat long bone fractures with early internal fixation, as a definitive method of treatment after successful resuscitation. Early internal fixation of long bone fractures, in severely polytraumatized patients, represents a large and dangerous additional trauma for the injured person, and it can be safely performed after stabilization of the general condition. External skeletal fixation is a safe method for achieving early initial stability of long bone fractures with minimal additional operative trauma. External skeletal fixation of long bone fractures in polytraumatized patients should be transformed into internal fixation when the conditions are met.

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