



# Perkutana epiduralna neuroplastika sa FORA-B kateterom

## Percutaneous Epidural Neuroplasty with FORA-B Catheter

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### Apstrakt

Epiduralne adhezije izazivaju bol tako što ometaju slobodno kretanje kičmenih nerava i povećavaju neuralnu osetljivost kao posledicu neuralne kompresije. Da bi se uklonile adhezije i dostavili ubrizgani lekovi na ciljna mesta, perkutana epiduralna adheziozisa (PEA) izvodi se kod pacijenata koji ne reaguju na konzervativne tretmane. Metoda se izvodi novorazvijenim balon kateterom na naduvavanje radi efikasnijeg PEA i ublažavanja stenozе. Kod sadašnjih pacijenata tretmani ponavljajućim epiduralnim injekcijama steroida i/ili PEA sa Rac-kateterom ili Navi-Cath-om nisu dali dugotrajne efekte ili funkcionalna poboljšanja. Međutim, PEA i dekompresija sa balon kateterom na naduvavanje doveli su do održavanja olakšanja bola više od sedam meseci i poboljšanja funkcionalnog statusa sa povećanjem udaljenosti hoda. Ova metoda sugerise da balon kateter na naduvavanje može biti efikasna alternativa izvođenju PEA kada konvencionalne metode ne uspeju da uklone adhezije ili u dovoljnoj meri ublaže stenozu.

Nakon dobijanja pismenog informisanog pristanka pacijenta, on se smešta u ležeći položaj sa jastukom ispod stomaka da bi se svela na minimum lumbalna lordoza. Procedura se sprovodi u aseptičnim uslovima. Nakon orijentacije i identifikacije sakralnog otvora i davanja lokalnog anestetika (lidokain 2%, 4 ml) plasira se igla od 10 G, koja je posebno dizajnirana da spreči sečenje i ljuštenje katetera u epiduralni prostor kroz sakralni hiatus. Epiduralni prostor je identifikovan injekcijom kontrastnog sredstva (omnipak) pod fluoroskopijom. Nakon toga se uvodi kateter sa balončićem na vrhu do ciljanog intervertebralnog otvora na kojem postoji defekt u rasprostiranju kontrasta, a sve pod kontrolom fluoroskopa. Kada se dođe do željenog nivoa i otvora, uradi se mehanička adheziozisa naduvavanjem balončića na vrhu katetera. Nakon toga, na tom se mestu aplicira lokalni anestetik (l-bupivakain), kortikosteroid, i hipertoni NaCl. Nakon procedure pacijent se posle 2–3 časa otpušta kući sa savetom za vežbe i dalje kontrole. U UKC Kragujevac je do sada ovom metodom lečeno 5 pacijenata bez komplikacija pri izvođenju intervencije i neposredno posle nje. Svi 5 pacijenata su pokazala značajno smanjenje bola na VAS skali, više od 50%, kao i mogućnost fizičke aktivnosti. Trenutno se vrši njihova dalja evaluacija i praćenje dugotrajnosti efekta, kao i kvalitet života nakon intervencije, a sa rezultatima ćemo izaći nakon 6 meseci.

### Abstract

Epidural adhesions cause pain by interfering with the free movement of spinal nerves and increasing neural sensitivity as a result of neural compression. To remove adhesions and deliver injected drugs to target sites, percutaneous epidural adhesionolysis (PEA) is performed in patients unresponsive to conservative treatments. The method is performed with a newly developed inflatable balloon catheter for more effective PEA and relief of stenosis. In the present patients, treatments with repeated epidural injections of steroids and/or PEA with the Rac catheter or NaviCath did not produce long-term effects or functional improvements. However, PEA and decompression with an inflatable balloon catheter resulted in sustained pain relief for more than seven months and improved functional status with increasing walking distance. This method suggests that an inflatable balloon catheter may be an effective alternative to performing PEA when conventional methods fail to remove adhesions or sufficiently relieve stenosis.

After obtaining the patient's written informed consent, the patient is placed in the supine position with a pillow under the abdomen to minimize lumbar lordosis. The procedure is carried out in aseptic conditions. After orientation and identification of the sacral opening and administration of local anesthetic (Lidocaine 2%, 4ml), a 10 G needle is placed, which is specially designed to prevent cutting and peeling of the catheter into the epidural space through the sacral hiatus. The epidural space was identified by injection of a contrast medium (Omnipak) under fluoroscopy. After that, a catheter with a balloon on the tip is introduced to the targeted intervertebral opening where there is a defect in contrast distribution, all under the control of a fluoroscope. When the desired level and opening are reached, mechanical adhesionolysis is performed by inflating the balloon on the tip of the catheter. After that, a local anesthetic (L-bupivacaine), a corticosteroid, and hypertonic NaCl are applied to that area. After the procedure, the patient is discharged home after 2-3 hours with advice on exercises and further controls. At UCC Kragujevac, 5 patients have been treated with this method so far without complications during the procedure and immediately after the intervention. All 5 patients showed a significant reduction in pain on the VAS scale, more than 50%, as well as the possibility of physical activity. Currently, further evaluation and monitoring of the longevity of the effect and the quality of life after the intervention are being carried out, the results of which will be published after 6 months.

