Novel device for sealing perforations following dural puncture

Alaa Abd-Elsaved

ABSTRACT

Unintentional dural puncture can lead to post-dural puncture headache. Garcia-Vitoria et al examined the efficacy of a new device that allows sealing a dural puncture. The authors performed their study on an animal model and found a reduction in cerebrospinal fluid (CSF) leak in the group of sheep that received the intervention. This device may be potentially tested in humans to examine their efficacy in reducing CSF leak in human subjects who may have a dural puncture.

School of Medicine and Public Health, University of Wisconsin-Madison, Madison, Wisconsin, USA

Correspondence to Dr Alaa Abd-Elsayed, School of Medicine and Public Health, University of Wisconsin— Madison, Madison, WI 53705, USA; alaaawny@hotmail.com

Contributors AA-E prepared the infographic.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

© American Society of Regional Anesthesia & Pain Medicine 2021. No commercial re-use. See rights and permissions. Published by BMJ.



To cite Abd-Elsayed A. Reg Anesth Pain Med Epub ahead of print: [please include Day Month Year]. doi:10.1136/rapm-2020-102423

Received 21 December 2020 Accepted 22 December 2020



► http://dx.doi.org/10.1136/rapm-2020-102225 Reg Anesth Pain Med 2021;0:1. doi:10.1136/rapm-2020-102423

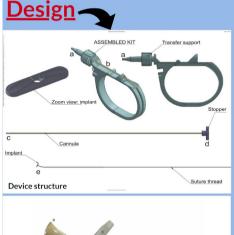
REFERENCE

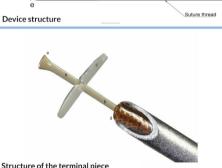
García-Vitoria C. García-Rosselló M. Reina M. et al. Validation of a bioabsorbable device that seals perforations after Tuohy needle dural puncture in an ovine model. RAPM.

Regional Anesthesia Pain Medicine

A novel device for sealing perforations following dural puncture

An interesting study by Garcia-Vitoria et al examined the efficacy of a new device in sealing perforations following dural puncture in an animal model. The hypothesis is that device will reduce Cerebrospinal fluid (CSF) leakage if unintentional dural puncture occurs (1).





Forty six Anesthetized sheep were studied in a single blind randomized controlled

They were dividied into 2 groups, all received a dural punctures, followed by injection of contrast. Twenty three animals received the intervention.

CT scan was then used to detect contrast leakage in both groups.

Investigators indicated less leak in animals that received the intervention using the sealing device.

Conclusion

Device is possibly an effective way of preventing CSF leak if applied immediately after dural puncture.

Figure 2: Implant deployed. a = the terminal end of the barbed thread has been modified to be wider in diameter than orifice in the patch to anchor it into the patch; b = the first millimeter of the thread is devoid of spines; c = implant; d = cannula positioned at tip of Tuohy

References: García-Vitoria C, García-Rosselló M, Reina M, De Andrés J, Gutiérrez Bautista A, Esteve-Bernet V, Boezaart A, Redondo-García J. Validation of a Bioabsorbable Device that Seals Perforations After Tuohy Needle Dural Puncture in an Ovine Model. dx.doi.org/10.1136/rapm- 2020-102225.R1

Infographic prepared by Alaa Abd-Elsayed, MD, MPH

