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**Spinal Epidural AV Fistula Embolization with EVOH Copolymer Using the Scepter
Mini Dual Lumen Balloon**

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Pr F. Clarençon reports conflict of interest with Medtronic, Guerbet, Balt Extrusion, Penumbra (payment for readings; non-related to the study), Codman Neurovascular and Microvention (core lab; non-related to the study).

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Abstract

Left unattended, spinal epidural arteriovenous fistulas (EAVF) have a potentially severe clinical course. Embolization using ethylene vinyl alcohol (EVOH) copolymers through regular dual lumen balloons has emerged as a potential option for the treatment of spinal arteriovenous fistulas ^{1, 2, 3}; the main issue of this technique being the navigability of these balloons. The Scepter mini is a low-profile dual lumen balloon, which may be helpful for EVOH embolization of spinal AV fistulas; it may help to overcome the navigation drawbacks. In this technical video, we present a case of EVOH embolization of a right T6 spinal EAVF through a Scepter mini balloon. Of note, great attention should be paid to radiculomedullary arteries arising at the same level or at adjacent levels to avoid severe neurologic complication related to uncontrolled migration of the liquid embolic agent. Moreover, excessive use of embolic material should be avoided to prevent spinal cord compression.

References

1. Trivelato FP, Rezende MTS, Ulhoa AC, Nakiri GS, Abud DG. Dual-lumen balloon to increase onyx venous penetration in the treatment of spinal dural arteriovenous fistulas. J Neuroradiol. 2018;45(2):142-146. doi: 10.1016/j.neurad.2017.09.006.
2. Arslan M, Cinar C, Oran I. Dual-Lumen Balloon Catheter Technique for Onyx Embolization of Spinal Dural Arteriovenous Fistula. J Vasc Interv Neurol. 2019;10(3):34-37.
3. Nakae R, Nagaishi M, Hyodo A, Suzuki K. Embolization of a spinal dural arteriovenous fistula with ethylene-vinyl alcohol copolymer (Onyx) using a dual-lumen microballoon catheter and buddy wire technique. Surg Neurol Int. 2017;8:166. doi: 10.4103/sni.sni_193_17.

Contributorship statement:

Frédéric Clarençon: Manuscript redaction, video preparation

Eimad Shotar: Manuscript preparation, critical review of the manuscript

Arnaud Pouvelle: Data collection, critical review of the manuscript

Kevin Premat: Critical review of the manuscript

Stéphanie Lenck: Critical review of the manuscript

Mehdi Drir: Critical review of the manuscript

Gonzague Guillaumet: Data collection

Elisabeth Maillart: Critical review of the manuscript

Nader-Antoine Sourour: Data collection, Critical review of the manuscript