A transmedullary approach to occlusion of a ventral perimedullary arteriovenous fistula of the thoracic spinal cord.

Abstract:
A spinal perimedullary arteriovenous fistula (PMAVF) is a direct fistula of one or more spinal arteries into the perimedullary venous network with reversed venous flow and subsequent venous congestion of the spinal cord. The therapeutic goal of surgery is to normalize the venous drainage by obliterating the fistula. Strictly ventral lesions typically require an anterior approach to ensure adequate exposure of the fistula as well and the preservation of the physiological blood supply to the spinal cord. We present a case of a ventral PMAVF at the level of T10 with feeders from the anterior spinal artery, caudally draining veins on the ventral spinal cord, and a dilated transmedullary vein filling cranially draining veins on the dorsal aspect of the spinal cord. The dilated transmedullary vein was approached by a laminectomy. The vein was coagulated, and the gliotic channel was used to approach the ventral fistula site from the dorsal surface of the spinal cord. Complete obliteration of the fistula was achieved, and the preoperative neurological deficit improved. We conclude that transmedullary draining veins offers a possible dorsal approach for the occlusion of some ventral PMAVFs, thus avoiding more complex anterior approaches to the ventral spinal cord.