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Anatomy of the Epidural Space

To the Editor:—Using CT-epidurography, Savolaine *et al.* have confirmed the existence of the dorsomedian connective tissue band demonstrated by me with epiduroscopy.¹ They have also shown that the connective tissue in the lateral parts of the epidural space is organized causing a compartmentalization. Thus, the fold of the dura mater demonstrated by Luyendijk with peridurography,² which he called the "plica mediana dorsalis (durae matris)" and assumed to be caused by attachments of the dura mater to the dorsal aspect of the epidural space, has now been fully explained and confirmed. For the sake of clarity I suggest, however, that a distinction be made between the fold of the dura mater and the connective tissue band that causes it. This is not the case in the above-mentioned article, in which the connective tissue band is sometimes referred to as the plica mediana dorsalis, a term that can only mean the dorsomedian fold of the dura mater. A strict distinction in the terminology of these structures will be of value

for the continued exploration and description of the structures of the lumbar epidural space.

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CT-Epidurography and the Anatomy of the Human Lumbar Epidural Space

To the Editor:—The article by Savolaine *et al.*¹ on the anatomy of the human lumbar epidural space raises the following issues. First, unlike previous authors, Savolaine describes an interesting connective tissue plane in both dorsolateral compartments of the epidural space dividing them into anterior and posterior subcompartments (in 31 out of 40 patients). It is not clear from the author's description and illustrations whether this "connective tissue plane" is attributed to a membranous structure or whether it consists of connective tissue strands at more or less regular intervals, as may be suggested by figures 2A and 2B.¹

Second, we completely agree that the median contrastless line on peridurograms represents the plica mediana dorsalis (fig. 1). It has been observed by one of us in hundreds of peridurograms²⁻⁴ and has been confirmed by several others.⁵ However, the plica mediana dorsalis as conceived by Savolaine and co-authors differs fundamentally from the initial interpretation as described by one of us.¹⁻⁴ According to Savolaine, it consists of a median ligamentous structure connecting the lumbar dura mater with the inner side of the vertebral arch (fig. 2A). None of us will deny the existence of at least fine but strong ligamentous strands in the midline of the posterior lumbar epidural space. These bands have also been clearly demonstrated by epiduroscopy.⁶ However, the original description of the plica mediana dorsalis does not regard those connecting fibrous strands, but a substantial fold of the dura mater itself. In normal conditions, this plica is not present; it only shows when the amount of CSF is reduced and a consequent (partial) collapse of the dural sac occurs. Thus the dorsomedian fold has been regularly observed: 1) during surgery for protruded lumbar discs after having performed a horizontal hemilaminectomy, the patient being placed in the knee-elbow position so that his lumbosacral region is at the top of his so positioned body; and 2) after injection of a considerable quantity of fluid into the lumbosacral epidural space with a consequent compression of the dural sac.²⁻⁴ In both situations, the lumbar dural sac will partially collapse. The strong median ligamentous strands will prevent the collapse to be total by exerting traction at the dorsomedian region of the dural sac. Consequently, these strands will give rise to a dorsomedian fold of the dura mater, *i.e.*, the plica mediana dorsalis.^{2-4,6} After interruption of these strands during surgery, the plica mediana dorsalis will disappear as the dural sac then comes to a complete collapse.²⁻⁴

We think it is important that any confusion on the term "plica mediana dorsalis" has to be avoided in the future by strictly distinguishing the "dorsomedian dural fold", *i.e.*, the plica mediana dorsalis according to its original description, from the "dorsomedian ligamentous strands" connecting the lumbar dural sac—or its plica mediana dorsalis eventually—to the ventral side of the vertebral arches.

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