

Rare Examples of the Space of Okada Spread

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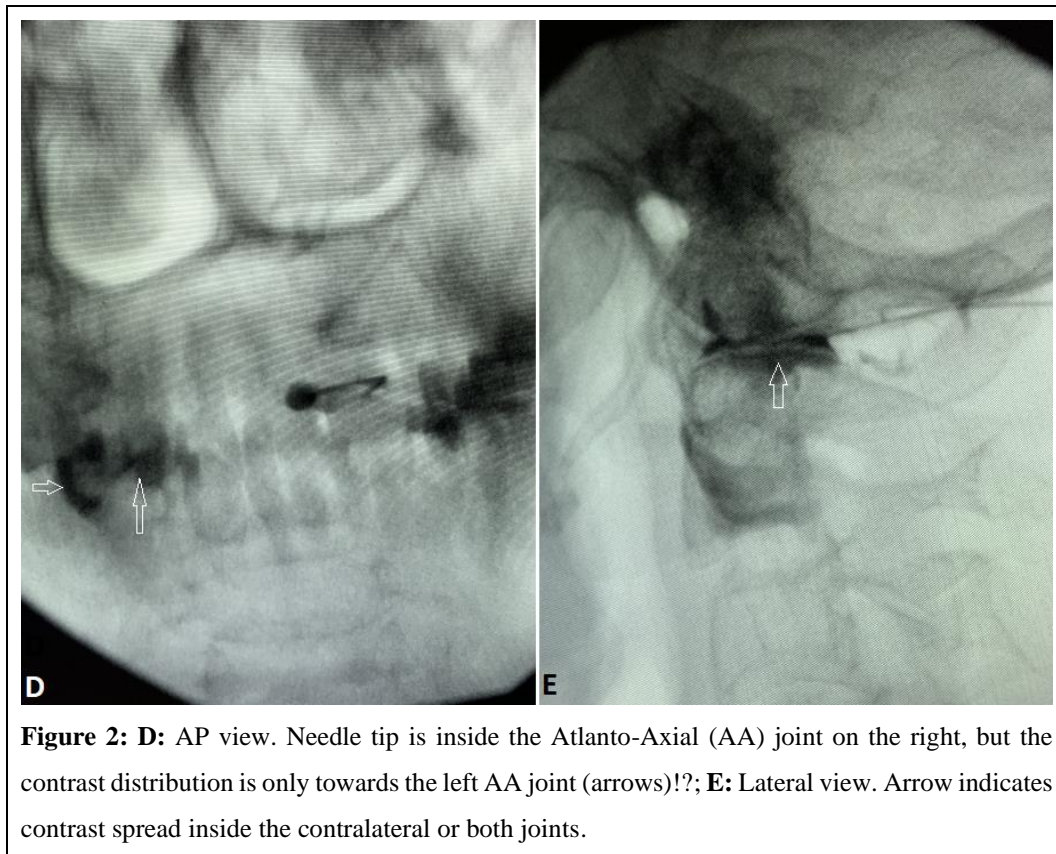
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Clinical Image

I combined two cases of the contralateral facet contrast distribution as they are quite rare. In the first case (Figure 1A, B and C), it was a cervical epidural injection, and in the second (Figure D and E), it was an Atlanto-Axial (AA) joint injection. The current explanation of these phenomena is the retrodural Space of Okada (SOO) spread [1,2]. First described as the space providing communication between the contralateral facet joints [1], SOO distribution with AA joint injection (Figure D and E) is very unusual. It is the only case in my practice for many years. However, I frequently see the SOO opacification with my cervical epidural injections [3]. Most of the time, it is ipsilateral, randomly bilateral, and as an exception, only contralateral (Figure A, B and C). I frequently encounter SOO with cervical ESIs due to the technique I employ. Instead of the radiolucent air or saline traditionally used with loss of the resistance technique, I inject contrast and carefully explore the resulting images [4]. Treated by some as a complication, SOO opacification is actually a normal flow pattern, and further needle advancement is required for epidural access (Figure C) [3]. It is unclear if the pathway for the contralateral contrast distribution is the same with the epidural (Figure A, B and C) and intraarticular (Figure D and E) injections. Future research is warranted for a better understanding of the nature of the space of Okada.



Figure 1: **A:** Contralateral Oblique (CLO) view. Vertical arrow points towards the needle tip approaching the epidural space. Arrowheads are aiming at the unexpected contrast spread across the spine; **B:** Anterior-posterior (AP) view. Arrow points to the needle tip on the right, and arrowheads indicating the Space of Okada (SOO) spread on the left; **C:** CLO view. Horizontal arrows are indicating epidural spread after the needle advancement. Note that there is no change in the SOO opacification (arrowheads) despite extra volume (2 ml) injected for the epidurogram. That might support the proposition that the SOO location is dorsal to the ligamentum flavum.



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