

A Procedurally Challenging Case due to Congenitally Fused C2/3 Vertebrae

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INTRODUCTION

- This case highlights a unique case of chronic and unrelenting cervical pain in a patient with congenitally fused C2-3 cervical vertebrae.
- Recent studies suggest that congenitally fused cervical vertebrae may be more common than previously reported [1].
- Prior literature suggests fused cervical vertebrae are found more commonly amongst patients with degenerative changes [2, 3].
- This case yields valuable teaching points including how best to approach axial neck pain in patients with congenital cervical fusions.

MATERIALS AND METHODS

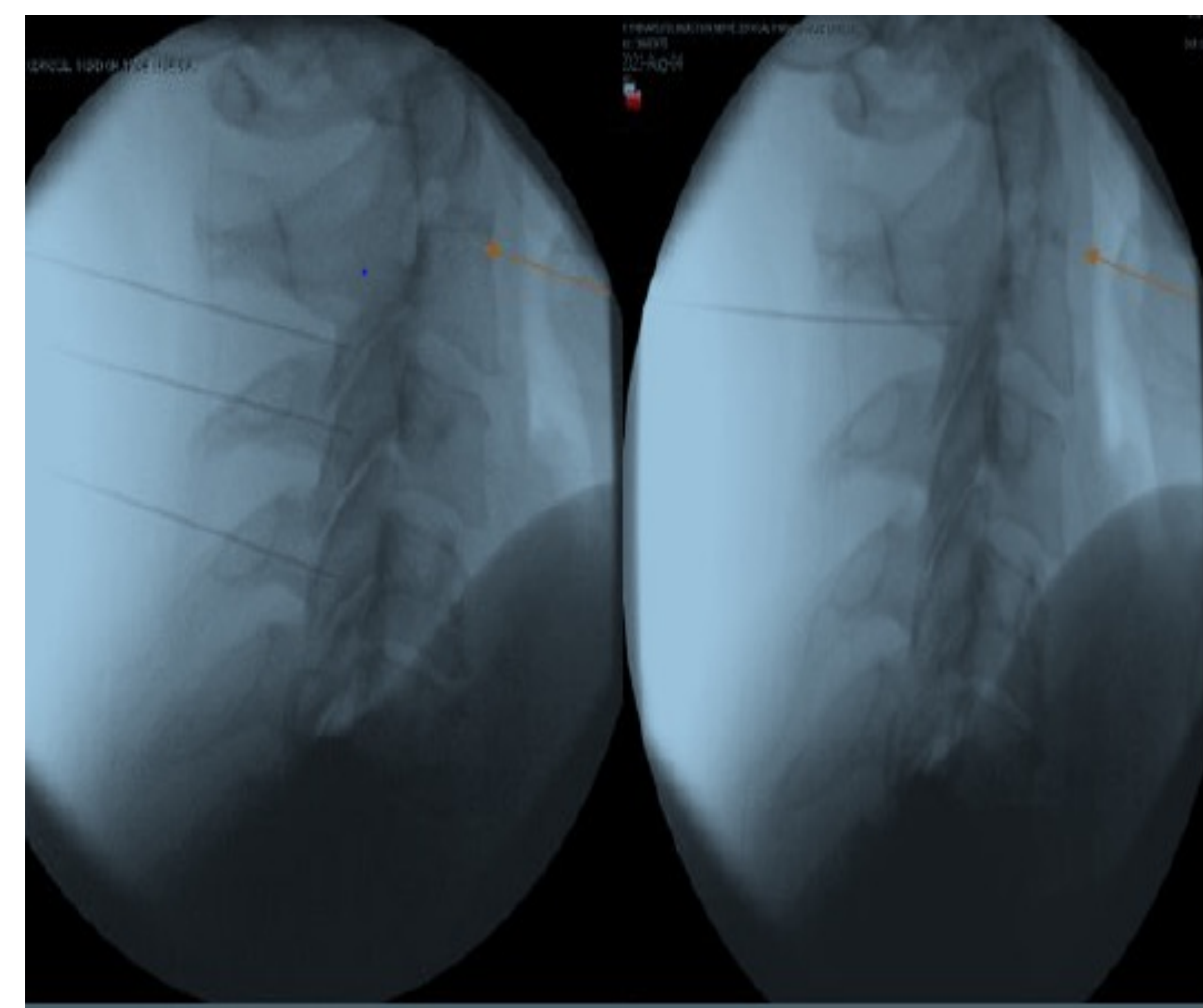
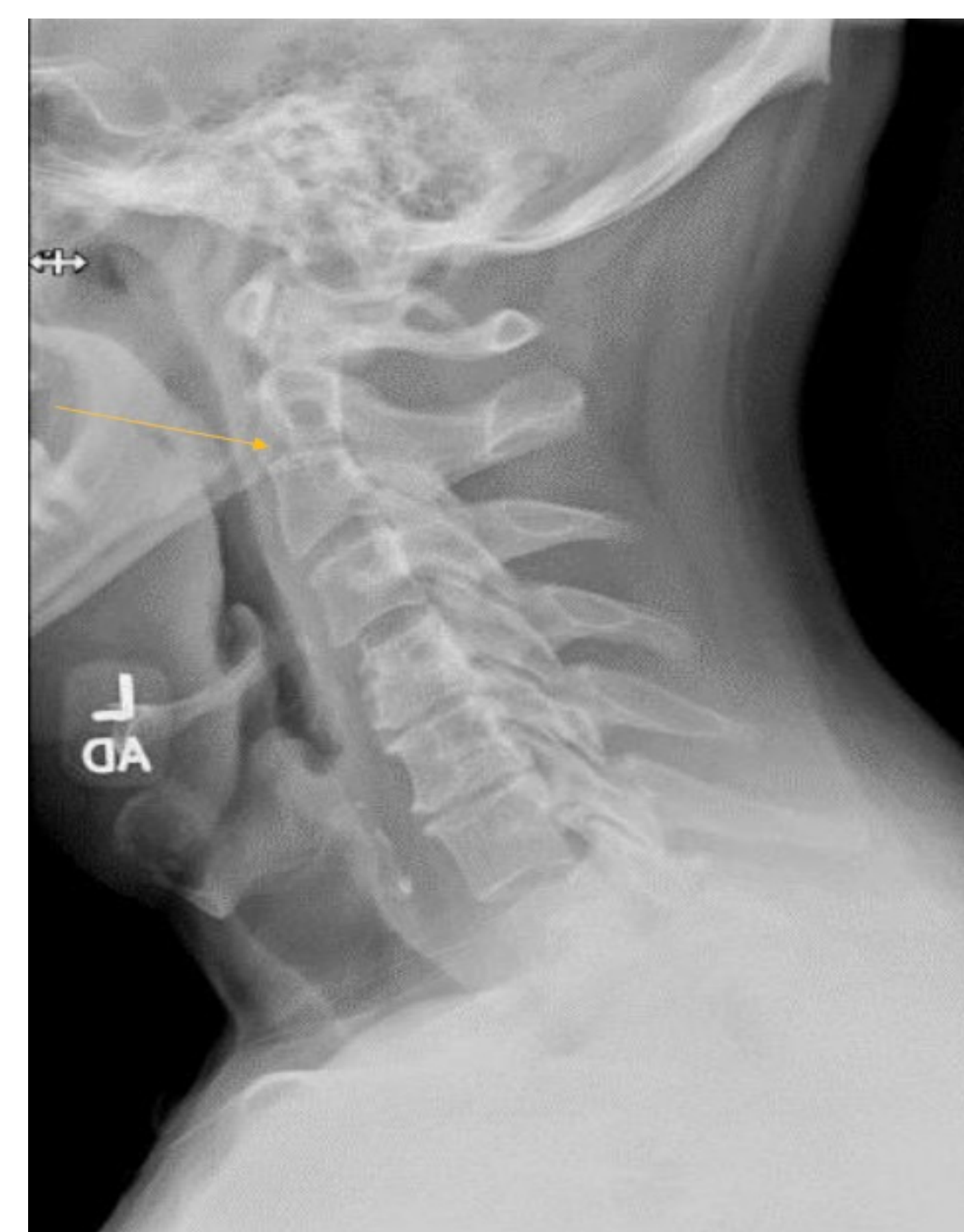
As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per NYU policy.

FIGURES

Image 1 (left). Lateral cervical X-ray demonstrating fused C2-C3 Vertebrae.
Image2 (right). Needle placement during MBB/RFA of TON and C3-C5.

RESULTS (CASE REPORT)

- A 48-year-old male with chronic lower back pain presented with constant, shooting left-sided neck pain exacerbated by movement and radiating to the occiput and left posterior shoulder.
- Previous treatments including medications (duloxetine, gabapentin, meloxicam), physical therapy, and chiropractic care were ineffective in alleviating neck pain.
- Physical examination revealed tenderness along the left trapezius and positive findings on Spurling's maneuver.
- Imaging showed fusion of C2 and C3 vertebral bodies, along with spondylosis and foraminal stenosis at multiple levels in the cervical spine (**Image 1**).
- Targeted diagnostic medial branch blocks and subsequent radiofrequency ablation (RFA) of the third occipital nerve (TON) and C3-5 (**Image 2**) provided significant relief (>80%) of cervical symptoms and improved range of motion.



DISCUSSION

- The case underscores the prevalence of congenitally fused cervical vertebrae, with a CT-based analysis revealing a prevalence of 0.0058%, notably higher than previously reported [1].
- Congenitally fused vertebrae, particularly at C2-C3 and C5-C6, may predispose individuals to chronic cervical spine pain, possibly due to increased risk of degenerative changes like degenerative disc disease [3].
- Patients with congenitally fused vertebrae present technical challenges for interventions due to abnormal bony architecture, as seen in the absence of a typical C3 articular pillar in a patient with congenital C2-3 fusion.
- The management of pain related to congenital fusion typically involves nonoperative treatment, highlighting the importance of effective pain management strategies in this patient population [4].
- Further insights from the pain management community are needed to address these challenges.

REFERENCES

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