

An Unusual Case of Torticollis: Congenital C2-C3 Partial Fusion



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OBJECTIVE

While congenital muscular torticollis is the most common cause of cervical postural deformity in children, atypical presentations mandate rigorous evaluation for underlying structural anomalies. We describe the exceptional case of a congenital cervical vertebral malformation, initially presenting as torticollis and progressing to secondary scoliosis in a 5-year-old boy suffering from long-term social neglect.

CASE REPORT

A 5-year-old male, recently placed in foster care due to chronic domestic neglect, presented with a persistent leftward head tilt (laterocollis 10-15°) and a fixed "cock-robin" posture. According to his foster guardian, the untreated deformity had been present for at least 3-4 years. Physical examination revealed limited active cervical rotation (Right 70°, Left 60°) and provoked acute pain with resistance at the end-range of passive rotation. Manual muscle testing indicated mild neck flexor weakness (Fair+), accompanied by left shoulder elevation and asymmetric trunk posture.

Standard cervical radiographs (AP, Lateral, Open-mouth views) were obtained but officially read as normal, likely because high cervical segments are frequently obscured on static films. Due to persistent clinical suspicion, a three-dimensional computed tomography (3D CT) of the cervical spine was pursued. The 3D CT definitively revealed a partial fusion of the left-side lamina of C2 and C3. Subsequent whole-spine magnetic resonance imaging (MRI) demonstrated normal contour and signal intensity of the spinal cord and symmetric thickness of bilateral sternocleidomastoid muscles, successfully excluding neurogenic and myogenic etiologies. Notably, a whole-spine radiograph identified a secondary musculoskeletal complication, presenting as an upper thoracic compensatory scoliosis with a Cobb's angle of approximately 13°.

CONCLUSION

Cervical spine evaluations should always be rigorously performed when assessing a patient with atypical torticollis to rule out vertebral anomalies, despite the rarity of the condition. This case underscores the critical limitations of relying solely on static radiographs. In pediatric patients, especially those with prolonged disease duration exacerbated by social neglect, advanced imaging such as 3D CT is imperative when clinical signs discord with plain films. Timely identification is paramount to prevent irreversible secondary spinal deformities.

KEYWORDS

Torticollis, Cervical Vertebrae, Vertebral Fusion Abnormalities, Scoliosis

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Figure 1. Three-dimensional computed tomography (3D CT) of the cervical spine. The image reveals a congenital partial fusion of the left lamina at the C2-C3 level, which was previously obscured on standard cervical spine X-rays. (↑)

Figure 2. Whole-spine radiograph (AP view) demonstrating secondary musculoskeletal complications, showing a compensatory upper thoracic scoliosis with a Cobb's angle of approximately 13°. (→)

