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## Atypical Cause of Axillary Pain

*To the Editor:*

A healthy 27-year-old G1P0, 24-week pregnant Caucasian female presented to her primary care physician with a 12-month history of pain in her right axilla that had gradually worsened with progression of her pregnancy. The pain was a constant, dull ache with an intermittent sharp component that originated in the anterior portion of the right axilla. The right shoulder examination was atraumatic and revealed some provocation of the pain with the crossover and Neer's maneuvers. The right axilla and breast examinations revealed mild tenderness to palpation in the right upper outer breast quadrant, with no palpable masses or lymphadenopathy. The neurologic examination was unremarkable. Thus initially, a pre-emptive trial of physical therapy was attempted for presumed right pectoralis muscle strain.

However, despite physical therapy, the patient represented 4 weeks later with progressively worsening paroxysms of severe, sharp axillary pain radiating down the right arm with an intermittent "burning" quality. An ultrasound of the right breast/axilla was obtained, which was unrevealing. Postpartum magnetic resonance imaging of the right shoulder and thoracic spine revealed a pleural-based mass in the lateral right superior hemithorax. A follow-up computed tomography scan subsequently confirmed a 3 × 2-cm well-circumscribed, heterogeneous, pleural-based soft tissue mass near the lateral upper lobe of the right

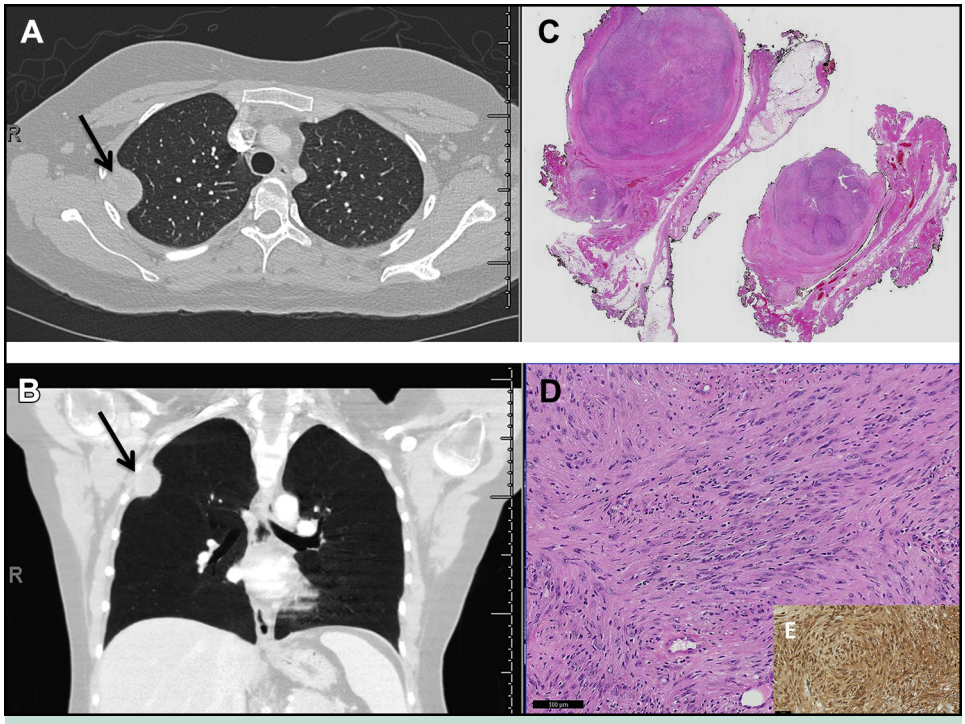


**Figure** (**A**, **B**) Computed tomography scan showing a 3 × 2-cm well-circumscribed, heterogeneous, pleural-based soft tissue mass near the lateral upper lobe of the right lung, with no involvement of the underlying third rib. (**C**) Low power view of the fibrous capsule of the schwannoma. (**D**) High power view of alternating Antoni A (dense) areas and Antoni B (loose) areas of Schwann cells. (**E**) Positive S-100 stain confirming the presence of Schwann cells in the mass.

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lung, with no involvement of the underlying third rib (**Figure, panels A and B**). The patient then underwent robotic-assisted thorascopic resection of the mass. The pathology revealed alternating Antoni A (dense) areas and Antoni B (loose) areas of S100-positive Schwann cells contained within a fibrous capsule, consistent with a schwannoma originating from an intercostal nerve (**Figure, panels C-E**). After its removal, the patient had resolution of her neuropathic pain.

Schwannomas are encapsulated nerve sheath tumors that can occur at any age (most commonly from 20 to 60 years). They have no race or gender predilection and account for approximately 5% of all benign soft-tissue neoplasms. They typically affect the spinal roots, the cervical plexus, and the vagus, peroneal, and ulnar nerves; deep schwannomas are most commonly found in the posterior mediastinum and the retroperitoneum.[1] Schwannomas arising from the intercostal nerve are rare, accounting for less than 5% of all thoracic neural tumors.[2,3] Previous case reports have described the initial presentation of chest pain, but this seems to be the first associated with axillary pain. In general, it is rare for schwannomas to cause pain and neurologic symptoms unless the tumor becomes large enough that it compresses other structures.[1,2] This compression, which would have been exacerbated by external pressure from an enlarging gravid uterus, may explain the dramatic worsening of the patient's pain during pregnancy. An alternative explanation is that there was accelerated growth through stimulation of progesterone receptors expressed on the tumor (described in 13 of 20 neuraxial schwannomas in one study) by the elevated progesterone levels of pregnancy.[4,5]

In conclusion, this case highlights that a schwannoma should be considered in a pregnant patient presenting with progressive, focal neuropathic pain and that an intercostal schwannoma is part of the differential diagnosis for axillary pain. The diagnosis can often be made with a simple chest radiograph.

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