

## Answers to Medical Quiz

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1. Structure involved is the sternocleidomastoid muscle where ultrasound (Figure-1) revealed a homogeneous (isoechoic) fusiform enlargement of sternocleidomastoid muscle with well-defined margins. Abnormality is more obvious when compared with normal side (Figure-2). There was no associated cervical lymphadenopathy. Ultrasound appearance is that of Fibromatosis Colli of infancy also referred to as sternocleidomastoid pseudotumor.
2. The possible differential diagnosis of neck mass suggested in such patients are as follows;

Soft tissue Tumor (Sarcoma)  
Haematoma and Abscess  
Lymphadenitis  
Congenital goiter  
Haemangioma  
Heterotopic thyroid  
Accessory lobe of thymus  
Dermoid cyst

### DISCUSSION

Fibromatosis colli (sternocleidomastoid tumor) of infancy is a non-neoplastic condition involving sternocleidomastoid muscle. Its exact etiology and pathophysiology is not clear, but believed to be related to prenatal and antenatal events. The typical clinical presentation consists of painless firm, nodule-like swelling in the neck measuring 2-3 cm in longest diameter. Most cases have abnormality at birth but manifest between 2-4 weeks of age. The lesion enlarges gradually for 2-6 months prior to spontaneous regression and resolution by the age of 6-8 month in about 80% of cases. The disease is usually unilateral (slightly more common on right side). Bilateral involvement is rare<sup>1</sup>. Both sexes are affected with almost equal frequency. An ipsilateral head tilt and contralateral chin rotation commonly occurs in 14%-20% of patients due to contraction of sternocleidomastoid muscle giving rise to a popular connotation-“torticollis”<sup>2,3</sup>.

The diagnosis of Fibromatosis colli can often be made thorough history and physical examination. Imaging is usually required to confirm the diagnosis and to avoid unnecessary diagnostic and therapeutic intervention<sup>2-6</sup>. U/S is a non invasive, inexpensive and also provides high specific imaging for this condition. In a review of 17 patients by Maddalozzo et al at children's Memorial hospital, U/S was 100% sensitive in detecting this condition<sup>7</sup>. On U/S tumor may have variable appearance, ranging from uniformly iso/hypoechoic mass with well defined or ill defined margins within the sternal head of sternocleidomastoid muscle or just as a homogeneous fusiform enlargement of muscle. The mass moves synchronously with the muscle on real time ultrasound. Variation in sonographic appearance should not prevent the radiologist to make the correct diagnosis as long as the abnormality is intramuscular and the adjacent soft tissues are not involved<sup>8</sup>. Our patient showed a homogeneous fusiform enlargement of muscle with smooth margins.

CT and MRI features are well described but rarely required due to high sensitivity of U/S. Additional diagnosis should be considered if U/S or CT shows inhomogeneous muscle density or echopattern with irregular margins and extension beyond muscle margin or regional lymphadenopathy. Differential diagnosis includes soft tissue tumor (sarcoma), haematoma, abscess, lymphadenitis, haemangioma, congenital goiter, heterotopic thyroid, accessory lobe of thymus, dermoid cyst. Biopsy is reserved only for cases where diagnosis is not clear-cut<sup>4,5</sup>.

Treatment of this condition is conservative and includes passive and active range of motion exercises to prevent contracture and permanent shortening of sternocleidomastoid muscle. The mass disappears by 6-8 weeks in about 80% of cases. Neglected cases may have permanent fibrosis and contraction of sternocleidomastoid muscle; hence requiring prompt surgical intervention<sup>9</sup>. If uncorrected, it may progress to permanent rotation and tilting of head with progressive craniofacial growth asymmetry.

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