

**CASE REPORT**

Infantile Fibromatosis - Utility of Fine Needle Aspiration Cytology

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Abstract

Infantile fibromatosis is a benign tumour of infancy and most common cause of congenital muscular torticollis generally before one years of age and should be differentiated from the neck masses in infants. FNAC can obviate the use of invasive diagnostic procedures.

Key Words

Torticollis, Aspiration cytology

Introduction

Infantile fibromatosis (Fibromatosis Colli), a benign tumour of infancy is the most common cause of congenital muscularis torticollis (1). The lesion is well circumscribed, hard and fusiform commonly occurring at 2-4 weeks of age. Characteristic head tilting may be present at the time of diagnosis. Diagnosis can be made by FNAC and radiological evaluation. Invasive diagnostic procedures should be avoided.

Case Report

A six month old infant presented with well circumscribed, fusiform 1.5 cm mass increasing in size on right side of neck with head tilting. No evidence of any congenital abnormality was noted. FNAC was done with clinical impression of soft tissue lesion, lymph node mass and to rule out malignancy. FNAC was performed using 21 gauge needle attached to 20 ml syringe. Aspirated material was fixed in 95% alcohol and stained with May Grunwald Giemsa (MGG) and Papanicolaou stain.

Smears showed cellular material comprising of variable sized skeletal muscle fragments showing evidence of atrophy and degeneration along with numerous

regenerating multinucleated muscle fibres. Background contained spindle shaped mesenchymal cells with features suggestive of proliferating fibroblast (*Fig 1*). There was no cytologic atypia or mitotic activity.

Discussion

Infantile fibromatosis is a benign lesion of infancy presenting shortly after birth generally before 1 year of age. The lesion occurs in approximately 0.4% of all newborns (5) and is the most common cause of congenital muscularis torticollis representing 10-20% of all cases. Infantile fibromatosis is associated with an increased of musculoskeletal disorders, including metatarsus adductus, developmental dysplasia of hip and talipes equinovarus (2). Clinically, a well circumscribed firm nodular mass can be palpated along sternocleidomastoid muscle.

The cytological features consist of numerous fibroblasts along with degenerative skeletal muscle. Its background is clear without evidence of haemorrhage or inflammatory process and not to be confused with infiltrative growth pattern of a malignant neoplasm (3). The differential diagnosis of a neck mass in an infant

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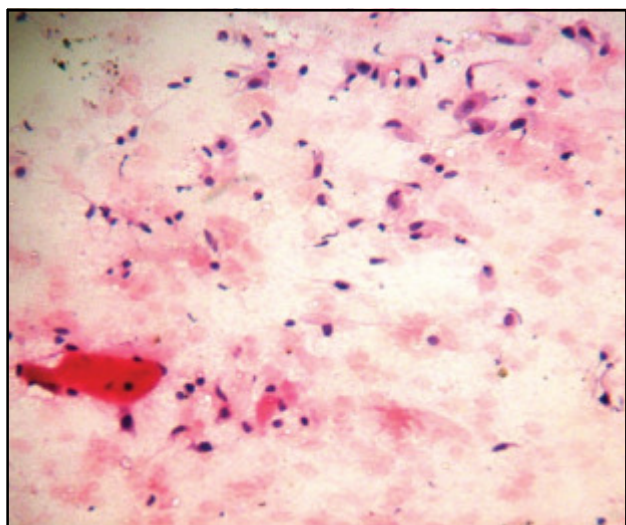


Fig.1 Microphotograph Shows Spindle Cell Fibroblasts and Regenerating Muscle Fibres(Pap20 X)

includes inflammatory process e.g cervical adenitis, tuberculosis; congenital lesions e.g branchial cleft cyst, thyroglossal duct cyst, fistula and mesenchymal repair e.g scar or keloid and benign neoplastic processes including haemangioma and lipoma. Cytologically, infantile fibromatosis and calcifying aponeurotic fibroma may show similar findings (4). Malignant tumours include lymphomas, neuroblastomas and rhabdomyosarcomas which can be differentiated cytologically and immunohistochemically.

Diagnosis of Infantile fibromatosis is done by cervical radiograph, ultrasound, C.T scan, MRI, FNAC and excision biopsy (7). However FNAC and ultrasound are convenient methods of evaluating infantile neck mass. Excision biopsy should be attempted in suspected malignant cases (6).

Pathogenetic mechanism includes fetal malpresentation, birth trauma, infection and vascular compression. Davis *et al* (1) proposed a mechanism of injury consisting of localized crushing and kinking and

not stretching or tearing, as previously thought, followed by in utero ischemia, reperfusion or neurological damage to sternocleidomastoid muscle. The most acceptable treatment for Fibromatosis colli before 1 year of age is corrective management consisting of passive stretching and positioning and massage. Surgical treatment is reserved for more than 1 year of age and persistent fibrosis in conservatively treated cases (4).

Conclusion

Fine needle aspiration cytology is a safe, rapid and cost effective method for the diagnosis of Infantile Fibromatosis.

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