A-29 Pathological changes of cleft lip muscle

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The pathogenesis of the cleft lip is still not fully understood and only a few studies have been done regarding its pathology. This is a prospective study to identify the pathological changes of cleft lip muscle which might help to understand its actiology.

At the time of primary repair of complete unilateral cleft lip, the excised margins of both lateral and medial clefts were obtained from 43 infants. Histological examination was carried out in serial specimens of sagittal and horizontal sections. 10 specimens from the same area were obtained from normal infants as control specimens. They were between 2 weeks and 5 months of age. Electron microscopic studies were done on 16 cleft lip specimens and one control. Histological studies on the control specimens did not reveal any qualitative changes of the muscle fibres. At the cleft edge the muscle fibres were disorganized with fibres running in different directions. The number of fibres was decreased. There was a greater amount of connective tissue and adipose tissue between the muscle fibres than in the controls. There were fibres that were atrophic and angular in section.

Electron microscopy confirmed the atrophy of muscle fibres. There was subsarcolemmal and interfibrillar mitochondrial aggregation. Some of these mitochondria were swollen and vacuolated and some others had abnormal arrangement of cristae.

This study has identified that the muscle fibres at the cleft edge are not simply malpositioned and atrophic but also have ultrastructural abnormalities which are either functionally induced or intrinsic.

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