Infantile fibrosarcoma presenting as shoulder dystocia

A case report

M. S. PUZEY, D. F. INNES, C. W. VAN DER ELST

Summary

Congenital (infantile) fibrosarcomas are soft-tissue tumours that usually present after birth. In the case described a large tumour of the right arm caused shoulder dystocia and death of the fetus.

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Case report

An 18-year-old primipara was referred to Groote Schuur Hospital in February 1988. She had booked in her first trimester and ultrasonography performed at approximately 14 weeks' gestation did not reveal any fetal abnormality. The mother had an uneventful antenatal course with a weight gain of 11,4 kg.

Departments of Obstetrics and Gynaecology, Pathology and Paediatrics and Child Health, University of Cape Town and Neonatal Services, Maternity Centre, Groote Schuur Hospital, Cape Town
M. S. PUZEY, M.B. CH.B.
D. F. INNES, M.B. CH.B.
C. W. VAN DER ELST, M.B. CH.B, F.C.P. (S.A.)

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She was admitted in labour with meconium staining of the liquor. Ultrasonographic extrapolation from previous scans estimated the gestation period to be 38 weeks. Abdominal palpation revealed a term pregnancy with a single fetus, longitudinal lie and a cephalic presentation in the left occipito-anterior position. Vaginal examination showed the cervix to be 6 cm dilated, fully effaced with the vertex 2 cm above the ischial spines.

The first stage of labour took 7 hours. Cardiotocography performed during this time showed early decelerations and baseline tachycardia. Scalp pH measured 1 hour before delivery was 7,221 with a base deficit of −10,1. After 45 minutes of good maternal effort and despite full cervical dilation the patient had not delivered so an 8 cm vacuum cap was applied. The presenting part was now at the spines, part of the head was visible, there was no moulding; the perineum had been well anaesthetised by an earlier pudendal block. A wide episiotomy was performed and the head delivered after two moderate pulls. Assisted extension of the head was difficult and no restitution occurred. A diagnosis of shoulder dystocia was made.

The posterior shoulder was delivered easily but rotation of the anterior shoulder proved extremely difficult. After 5 minutes and the use of considerable force, the anterior shoulder delivered. The dystocia had been caused by a large tumour mass on the anterolateral aspect of the arm. This tumour ruptured during the difficult delivery. The baby (Fig. 1), a boy, was noted to be extremely pale and despite vigorous attempts could not be resuscitated.

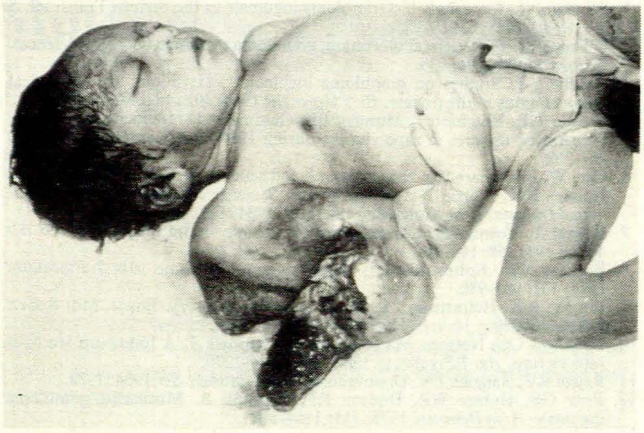

Fig. 1. Gross appearance of the ruptured fibrosarcoma in the right arm.

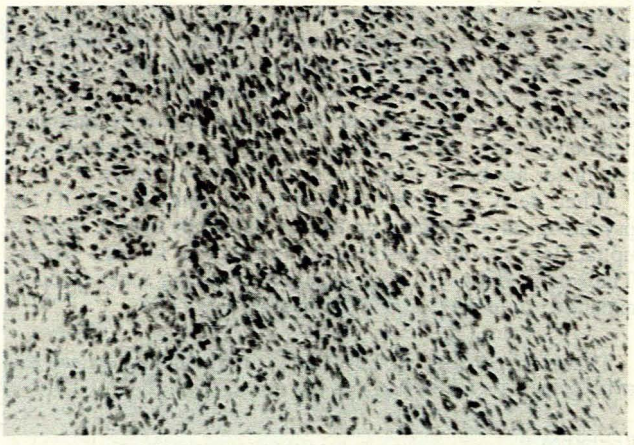

Fig. 2. 'Herring-bone' pattern of spindle-shaped tumour cells.

The mother's postpartum course was uneventful and she was discharged home after 2 days.

Autopsy findings

A necrotic haemorrhagic tumour measuring 10 x 5 x 5 cm was present on the right arm. Macroscopically the tumour had the 'fish flesh' appearance characteristic of fibrosarcoma.

Histological examination showed the tumour to be composed of small, solidly packed, spindle-shaped cells separated by variable amounts of interstitial collagen. The cells were oriented in curving, interlacing fascicles forming a classic 'herring-bone' pattern (Fig. 2). Mitotic figures were frequent, although their number varied from area to area within the neoplasm. Generally, the tumour showed more than 6 mitotic figures per mm^2.

The tumour infiltrated skeletal muscle and the overlying dermis. Other features of note in keeping with infantile fibrosarcoma were areas of vascularity, haemorrhage and scattered chronic inflammatory cells.

Discussion

The pathological findings in this case confirmed that the tumour was a congenital 'infantile' fibrosarcoma. The fetus probably died as a result of tumour rupture at delivery and consequent blood loss.

Infantile fibrosarcomas are relatively rare soft-tissue tumours occurring most commonly on the distal portions of the extremities and more commonly in male infants.[1] Reports of over 238 cases have been published, although concomitant obstetric complications, particularly dystocia, would seem to be rare.[2-4] Approximately 50% of these tumours are present at birth.[2]

The 5-year survival rate of patients with infantile fibrosarcoma is over 80% in comparison with 35 - 80% in patients with the adult variety.[2] Metastases are unusual and lymph nodes are rarely involved. Wide local incision or amputation is the treatment of choice, with radiotherapy or chemotherapy for recurrent or metastatic disease. In view of the prognosis and treatment options, in retrospect our patient should have been delivered by caesarean section and perhaps this should be the delivery of choice if infantile fibrosarcoma is suspected antenatally.

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