

was necessary in this case because of persistent cardiac failure.

Cardiac outcome. The feeding regimen had to be stopped and cardiac surgery performed in three infants with complex cardiac lesions, one of whom died during surgery.

Nine infants benefited from the feeding until their nutritional state had improved enough to allow safe surgical intervention. One was sent home after cardiac failure had resolved.

Discussion

We report an attempt to prevent the development of malnutrition in infants with congenital heart disease. Our results clearly show that these infants do grow when given an adequate energy supply, even if they have complex lesions presenting with cardiac failure. This is therefore confirmation that cardiac failure delays growth mainly by reducing voluntary intake.

The weight gain was associated with normal growth in height in eight of the nine infants. This group of patients has good growth potential. We cannot exclude some water retention, yet none displayed gross oedema. A prospective study is in progress to assess body composition in these patients.

All our patients had types of congenital heart disease that usually preclude any increase of fluid supply. The feeding regimen had to be stopped, however, only in infants with congenital heart disease of poorer natural prognosis. Continuous

enteral feeding may alleviate both fatigue due to sucking and periodic blood flow changes related to feeding.⁶

Conclusion

Continuous enteral feeding can be given to malnourished children with congenital heart disease even if they present with cardiac failure and will result in safer cardiac surgery.

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Hereditary multiple glomus tumours

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SUMMARY A 9 year old girl presenting with multiple glomus tumours is reported. Multiple glomus tumours are rare, often asymptomatic lesions, with a familial tendency and found in a more proximal location than their solitary counterparts. In our report four close relatives had similar lesions. Indications for surgical excision are discussed.

Glomus tumours are usually solitary, painful, and found in the distal extremities, classically under the

nails. More recently, however, it has been recognised that multiple glomus tumours may occur as bluish swellings with a more proximal location.¹⁻³ Multiple glomus tumours are extremely rare, and by 1971 only 45 cases had been reported.⁴ Characteristically, the tumours are asymptomatic, although a patient may have both painful and painless lesions at the same time. They occur with greater frequency in children than in adults but remain less common in all age groups than their solitary counterparts.¹ Several authors have recorded a familial tendency in some cases of multiple glomus tumours with an autosomal

dominant pattern of inheritance.^{2 3 5} We report a further family with hereditary glomus tumours and discuss the appropriate management of the condition.

Case report

A 9 year old girl presented with a request from her mother that several skin blemishes be excised for cosmetic purposes. Six soft, blue-black skin lesions had been noted from birth and had remained unchanged in character except for one on her right thigh, which had recently begun to ache. The lesions were located on the forearm, thigh, and buttocks. They ranged in size from 0.5 to 2 cm in diameter and, with the exception of the lesion on the thigh, were raised (Figure). There was no blanching on compression and, apart from the thigh lesion, they were painless. Her mother had similar lesions on her shoulder and leg, as did her maternal uncle, aunt, and grandmother. Her 5 year old brother had no lesions.

The symptomatic lesion was confined to the subcutaneous tissue and was completely excised through an elliptical skin incision.

Histology showed adipose tissue containing three separate clusters of cavernous endothelial lined spaces surrounded by regular cuffs of glomus cells. These were surrounded by fibrous tissue containing



Figure *Glomus tumour: one of multiple similar lesions, this tumour was blue-black in colour, slightly raised, and measured 1.3×1.0 cm.*

many small blood vessels, including muscular arteries. Thrombosis with organisation was observed in some of the cavernous spaces. The features were typical of glomangiomas or the type of glomus tumour seen in patients with multiple lesions.

Discussion

Few cases of hereditary multiple glomus tumours have been reported. This particular form of glomus tumour may become clinically apparent at any age from birth^{1 2 5} and is usually obvious by early childhood or adolescence, while the solitary form is often not noted until adulthood. Any part of the body surface may be involved, but the limbs are a more common site than the trunk. No systemic lesions have been reported to date.

Asymptomatic glomus tumours may become painful, and the onset of pain is often attributed to a minor injury. Where a lesion is causing distress complete surgical excision is effective in alleviating the pain. There is generally no recurrence at that site, although new tumours may occur elsewhere on the body. Only one patient with an infiltrating lesion has been reported where the lesion recurred after surgical excision.³ There has been no report of malignant change occurring within an asymptomatic glomus lesion. The number of lesions may vary considerably from case to case, and in one patient 64 lesions were counted.⁶ This highlights the impracticability of excision of all tumours in those cases where the number of lesions is great. The surgical management of multiple glomus tumours should simply be reassurance where the lesion is asymptomatic and complete local excision of painful tumours. Where the diagnosis is uncertain biopsy examination should be performed.

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