Pediatr Radiol (1998) 28: 272

PICTORIAL INTERLUDE

MR imaging of a pilomatrixoma

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A 4-year-old girl presented with a firm mass in the right side of her neck. This had been present for 6 months and was now rapidly increasing in size. Ultrasonography showed an egg-shaped mass with a hypoechoic border and a hyperechoic internal structure with several tiny dense spots showing acoustic shadowing. MRI showed a tumour with well-defined margins and high-signal intensity relative to the neck musculature on T1- and T2-weighted images (Fig. 1). The T2-weighted and fat-suppressed inversion recovery images showed higher signal bands radiating from the centre to a higher signal periphery (Fig. 2). This hyperintense rim enhanced with contrast agent, but the inhomogeneous centre did not. The mass was completely excised and histological examination showed bands of basaloid cells, calcification, keratinous material and abundant foreign body giant cells consistent with a pilomatrixoma (calcifying epithelioma of Malherbe) (Fig. 3).

To our knowledge, this is the first report describing the MRI appearance of a pilomatrixoma, a rare benign tumour that arises from the hair matrix. It may be single, or multiple in up to 12 %, and appears during the first 2 decades in 60–70 % of cases [1]. There is a slight female preponderance, and it is occasionally familial. Most of the tumours seem to develop and disappear without being noticed. One large study estimated that only about 1 in 500 skin tumours is a pilomatrixoma [2], but it seems to be the most common solid cutaneous tumour in patients 20 years of age or younger [3]. The pilomatrixoma we saw was unusually large compared with the cases reported in the literature [4]. Aggressive pilomatrixomas and malignant transformation to pilomatrix carcinoma are rare and occur in up to 9 % of benign pilomatrixomas at any age [1, 3]. Malignant tumours may invade locally but metastasise only very rarely [3, 4].

MR imaging may be diagnostic for pilomatrixomas if further reports can confirm the correlation between the high-signal bands in T2-weighted images and the bands formed by basaloid cells evident on histological examination.

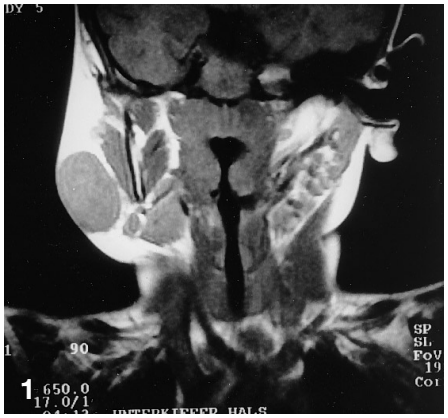

Fig. 1 T1-weighted coronal MRI demonstrating a well-defined tumour

Fig. 2 T2-weighted axial MRI showing bands of increased signal from the periphery to the centre and lower signal in the centre

Fig. 3 Histological section of the lesion. The dark grey areas predominantly confined to the subcapsular area correspond to the vital part of the epithelioma *(arrowhead:* capsule). The light grey areas are mainly composed of dead tissue, and the black dots correspond to calcifications within the dead matter. The delicate black lines *(arrows)* are artefacts

References

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