**CASE REPORT**

Benign mixed tumour of the skin with extensive ossification and marrow formation: a case report

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Benign mixed tumour of the skin (chondroid syringoma) is an uncommon skin adnexal tumour, usually presenting as a slow growing solitary painless nodule. The morphological appearances are similar to those of a pleomorphic adenoma of the salivary gland. Hair matrix and sebaceous differentiation can be seen in some lesions. Focal ossification is a rare finding. This report presents a case of a similar tumour arising in the cheek of a 43 year old white man, showing extensive ossification. Clinical, radiological, and pathological correlation and diagnosis proved to be difficult preoperatively. Only two cases of a benign mixed tumour with pronounced ossification have been reported so far, both in Japanese patients. This is the first reported case seen in a white man. Awareness of these lesions will avoid potential diagnostic pitfalls.

**DISCUSSION**

Typically, benign mixed tumours of the skin contain an intimate admixture of epithelial–myoepithelial structures within a chondromyxoid and fibrous stroma. Occasionally, differentiation towards various skin adnexal structures (including hair matrix, hair follicle, apocrine, and sebaceous glands) is encountered, suggesting origin from a
The generally accepted view is that there are apocrine and eccrine variants. Follicular differentiation is more commonly seen than sebaceous. Ossification is a rare feature and when present is usually focal and scant. Tsoitis et al reported a case of benign mixed tumour arising in the skin of the temple and showing focal ossification and pilosebaceous differentiation.

Extensive ossification in benign mixed tumours at any anatomical site is exceedingly rare, and so far, only two such tumours have been reported in the skin, both in Japanese patients. Akasaka et al suggested that ossification in these tumours indicates development from pluripotential stem cells.

Apart from the rare occurrence of ossification in cutaneous mixed tumours of the skin, secondary (metaplastic) ossification may be seen in a variety of other skin lesions, including naevi (particularly on the face (osteonaevus of Nanta)), basal cell carcinomas, up to 20% of pilomatrixomas, and less commonly in trichoepitheliomas, haemangiomas, pyogenic granulomas, schwannomas, lipomas, organoid naevi, epidermal and dermoid cysts, dermatofibromas, desmoplastic melanomas, and some cutaneous metastases.

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In conclusion, we present a case of benign mixed tumour of the skin with extensive ossification. This case, to the best of our knowledge is the first to be reported in a white patient. The presence of extensive ossification with areas of cellular marrow fat caused diagnostic difficulty, particularly on magnetic resonance imaging, and the pathological appearances of a needle core biopsy could not be reconciled with radiology. Awareness of this phenomenon in benign mixed tumour of the skin could avoid future diagnostic pitfalls.

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