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Granulocytic sarcoma of the maxillary sinus

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Malignant tumours of the maxillary sinus account for 0.3 per cent of all malignant tumours (Prasanna et al., 1975). The most frequent type in the adult is the squamous cell carcinoma, followed by the adenocarcinoma and the adenocystic carcinoma (Birt el al., 1976), whereas, in the child various sarcomas represent almost all malignant tumours of the maxillary sinus and the maxillofacial region (malignant lymphomas, fibrosarcoma, chondrosarcoma, osteosarcoma and rhabdomyosarcoma) (Horch et al., 1976; Lewis, 1969).

Approximately 10 per cent of all malignant lymphomas are believed to originate in the head and neck region. The characteristic African type, Burkitt's lymphoma, primarily involves the jaw in as many as 50 per cent of the children with this disease (Batsakis, 1979).

Today the common term for the green chloroma and the greyishwhite myeloblastoma is granulocytic sarcoma (Rappaport, 1966). Previously, such names as chloromyeloma, chloromyelosarcoma, chloroma, myelocytoma, myelosarcoma, myeloblastoma, granulocytic leusarcoma and granulocytic sarcoma have been suggested.

The granulocytic sarcoma is an extramedullary, localized tumourlike proliferation of immature myeloid cells, which is not uncommon to develop during acute granulocytic leukemia.

The tumour was first described in 1811 by Burns (Thompson et al., 1982), and the first case of acute granulocytic leukemia associated with granulocytic sarcoma was reported by Turk in 1903 (Liu et al., 1973).

In some cases the granulocytic sarcoma appears as the first symptom, several months before changes are visualized in the peripheral blood of bone marrow (Ersbøll et al., 1980; Krause, 1979). Occasionally the granulocytic sarcoma also is associated with chronic granulocytic leukemia. Almost all of these tumours arise in the subperiostal region, though development in the ovary, uterus, urinary bladder, kidney, intestine, liver, heart, lung, thyroid, breast and skin has been described (Seo et al., 1977). Subsequently less than 400 cases have been reported in the literature, but none was located in the maxillary sinus.

CASE REPORT

An 8 years old female with 2 months' progressive swelling of the left cheek, loose

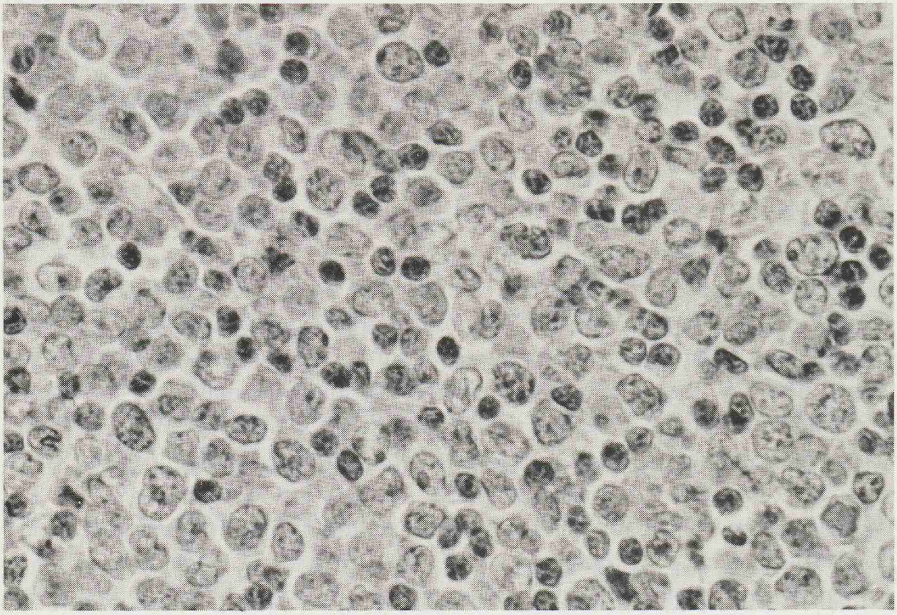

Figure 1. Cellular area of the granulocytic sarcoma. H and E. 680×.

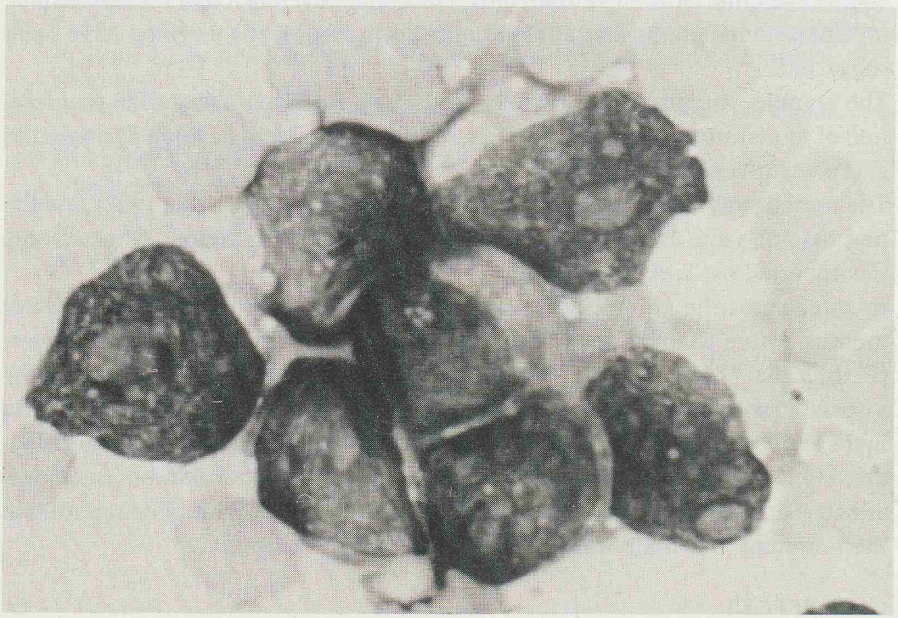

Figure 2. Myeloblasts. H and E. 1700×.

teeth in the upper jaw and widening of the left superior alveolar process. Several enlarged and firm lymph nodes were discovered on the left side of the neck, and blood studies revealed no sign of leukemia. Radiological examinations of the sinuses showed complete opacification of the left maxillary sinus without any bone destruction. On sinoscopy the left maxillary sinus appeared to be filled with greyishwhite tumour tissue. Histological examinations revealed a primitive mesenchymale tumour (Figure 1), which, subject to relevant enzyme staining procedures (chloroacetate and napthol-AS-D-acetate), proved to consist of myeloblasts (Figure 2). Death occurred three months later due to acute granulocytic leukemia, although the child was treated with cytotoxic agents.

CONCLUSION

Sarcomas of the maxillary sinus are rare. Granulocytic sarcomas are consistently associated with granulocytic leukemia, and the diagnosis may be difficult in the preleukemic stage. The prognosis is always poor. No previous cases of granulocytic sarcoma of the maxillary sinus have been published.

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