Acute promyelocytic leukaemia: looking through ‘gums’

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DESCRIPTION
Examination of the oral cavity provides valuable clues to a large number of systemic disorders. Gum hypertrophy is usually associated with myelomono- cytic and monocytic subtypes of acute myeloid leukaemia.1 Its occurrence in a case of acute promyelocytic leukaemia (APL) is unusual.1

We describe a 28-year-old man from India who presented to our hospital with a 2-week history of easy fatiguability and gum bleeding. Examination revealed pallor and marked gum hypertrophy (figure 1). Blood investigations showed haemoglobin 50 g/L, white cell count 5.4×10⁹/L, differential counts 95% promyelocytes, 3% myelocytes, 1% metamyelocytes and 1% neutrophils, platelets 30×10⁹/L, prothrombin time 18 s (control 14 s), activated partial thromboplastin time 42 s (control 34–36 s) and fibrinogen 1.5 g/L (2–4 g/L).

Examination of the bone marrow aspirate smears revealed typical Faggot cells (figure 2 A, B). Conventional karyotyping revealed t(15;17). PML-RARα was detected in the bone marrow aspirate by reverse transcriptase PCR (RT-PCR).

The patient was diagnosed as a case of APL (intermediate risk) and treated with a combination of all-trans-retinoic acid (45 mg/m²/day) and arsenic trioxide (0.15 mg/kg/day). Gum hypertrophy resolved within 2 weeks of initiating the therapy. The patient achieved a complete

Figure 1 Clinical photograph of the patient showing marked gum hypertrophy associated with bleeding.

Figure 2 (A) Microphotograph of the May-Grunwald-Giemsa stained smear of bone marrow aspirate showing atypical promyelocytes and Faggot cells under oil immersion. (B) Myeloperoxidase (MPO) cytochemistry showing dense MPO positive granules overlapping the nucleus (oil immersion).

Learning points
• Examination of the orodental cavity must be included in a routine clinical examination.
• The presence of gum enlargement may provide a clue to an underlying malignancy.
• Gum hypertrophy may herald the diagnosis of acute promyelocytic leukaemia when associated with a characteristic coagulopathy (hypofibrinogenaemia) and abnormal promyelocytes in the blood.
• Immediate initiation of all-trans-retinoic acid and arsenic trioxide in such cases without waiting for molecular studies may be life-saving.
morphological remission (assessed by a repeat bone marrow examination) at the end of the induction phase. Molecular remission (PML-RARα not detectable by RT-PCR) at 6 weeks of therapy was also documented. He is currently planned for consolidation therapy.

APL constitutes 5–13% cases of acute myeloid leukaemia. Bleeding is the predominant presentation and accounts for a high early mortality rate.2,3 The incidence of gum hypertrophy in APL is varied in the literature, with the reported incidence being 5.7% and 20% in two retrospective studies from India.2,3 Gum hypertrophy may be a clue to an underlying malignancy like APL and its presence must be sought by meticulous clinical examination.

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