



# 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 myelomonocytic and monocytic subtypes of acute myeloid leukaemia.<sup>1</sup> Its occurrence in a case of acute promyelocytic leukaemia (APL) is unusual.<sup>1</sup>

We describe a 28-year-old man from India who presented to our hospital with a 2-week history of easy fatigability and gum bleeding. Examination revealed pallor and marked gum hypertrophy

(figure 1). Blood investigations showed haemoglobin 50 g/L, white cell count  $5.4 \times 10^9/L$ , differential counts 95% promyelocytes, 3% myelocytes, 1% metamyelocytes and 1% neutrophils, platelets  $30 \times 10^9/L$ , 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 2A, B). Conventional karyotyping revealed t(15;17). PML-RAR $\alpha$  was detected in the bone marrow aspirate by reverse transcriptase PCR (RT-PCR).

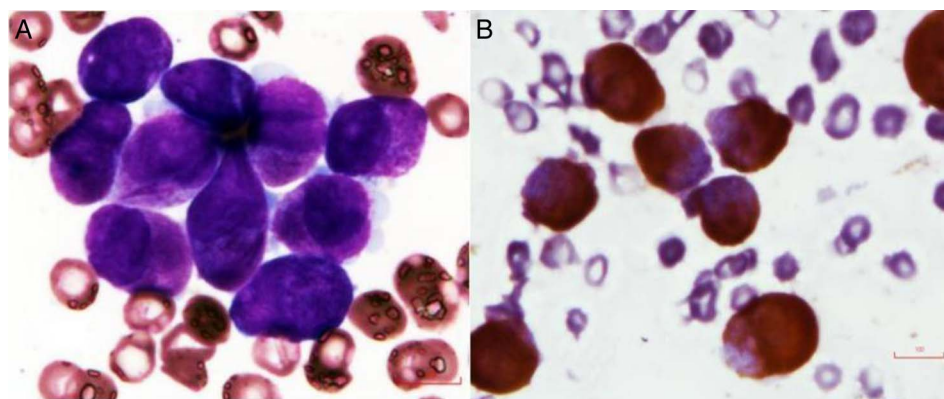
The patient was diagnosed as a case of APL (intermediate risk) and treated with a combination of all-trans-retinoic acid (45 mg/m<sup>2</sup>/day) and arsenic trioxide (0.15 mg/kg/day). Gum hypertrophy resolved within 2 weeks of initiating the therapy. The patient achieved a complete



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

## 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.



**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).



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morphological remission (assessed by a repeat bone marrow examination) at the end of the induction phase. Molecular remission (PML-RAR $\alpha$  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.<sup>2 3</sup> 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.<sup>2 3</sup> 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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**Patient consent** Obtained.

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