ANSWER TO PHOTO QUIZ (PAGE 45)
FROM DENTIST TO INTERNIST

DIAGNOSIS

The complete blood count showed a haemoglobin of 4.8 mmol/l, thrombocytes of 11 mmol/l and leucocytes of 8.2 mmol/l. The peripheral blood smear revealed 80% leukaemic blasts, tear drop cells and fragmentocytes. Clotting times and fibrinogen levels were normal. A transformation of his myelodysplastic syndrome into an acute myeloid leukaemia was suspected. This was confirmed by bone marrow which showed 71% blasts with strong positive myeloperoxidase staining and immunophenotyping revealing predominantly myelocytic blasts fitting an acute myeloblastic leukaemia. Tumour cytogenetic and molecular analysis showed a normal male karyotype and no mutations.

Gingival enlargement can be a sign or even a presenting symptom of acute leukaemia, especially when there is a prominent monocytic component.[1] It is not unusual that a dentist is the one who refers the patient to an internist for further analysis. An observational study showed that up to 66.7% of patients with acute monocytic leukaemia have gingival infiltrates or hyperplasia. Followed by 18.5% in patients with acute myelomonocytic and 3.7% with myeloblastic leukemia.[2] For unknown reasons it seems that acute lymphocytic leukaemia rarely causes gingival enlargement.[3] Hyperplasia can be due to direct infiltration of leukaemic cells. In that case it is called a myeloid sarcoma or chloroma. Sometimes, however, cytology only shows a reactive pattern without infiltration.[4] A histological biopsy was not performed in our patient. There is probably a tooth-associated factor in the pathogenesis since leukaemic gum invasion is not seen in people who are edentulous.[2]

Gingival hyperplasia is also a fairly well-known side effect of certain drugs. It has been well described with calcium antagonists, cyclosporine and antiepileptic drugs.[5] More recently also vemurafenib has been identified.[6] Furthermore it can be a manifestation of an autoimmune disease, namely granulomatosis with polyangiitis, Crohn's disease, tuberculosis and sarcoidosis.[7] The obvious therapy is treating the underlying disease or abstaining from the responsible drug.

The patient participated in the European Organisation for Research and Treatment of Cancer (ORTC) 1301 trial and was initially only treated with two cycles of decitabine. Because there was progression of disease under this regimen he was switched to an intensive therapy according to the Hemato-Oncology Adult Netherlands (HOVON) 103 trial. After two cycles of cytarabine, remission was achieved and he was referred to an academic hospital for an allogenic bone marrow transplantation which was successful. With this, his gingival enlargement also improved back to normal.

REFERENCES

1. Hasan S, Khan NI, Reddy LB. Leukemic gingival enlargement: Report of a rare case with review of literature. Int J App Basic Med Res. 2015;5:65-7.
2. Dreizen S, McCredie KB, Keating MJ, et al. Malignant gingival and skin "infiltrates" in adult leukemia. Oral Surg Oral Med Oral Pathol. 1983;55:572-9.
3. M.C. Haytac, et al. Severe Alveolar Bone loss and Gingival hyperplasia as Initial Manifestation of Burkitt Cell Type Acute Lymphoblastic Leukemia. J Periodontol. 2003;74:547-51.
4. Arul ASKJ, Verma S, Ahmed S, et al. A clinical and fine needle aspiration cytology study of gingiva in acute leukemia. Dent Res J . 2012;9:80-5.
5. Marshall R, Bartold M. A clinical review of drug-induced gingival overgrowths 1999. Aust Dent J. 1999;44:219-32.
6. Mangold AR, Bryce A, Sekulic A. Vemurafenib-associated gingival hyperplasia in patient with metastatic melanoma. J Am Acad Dermatol. 2014;71:e205-6.
7. Agrawal AA. Gingival enlargements: Differential diagnosis and review of literature. World J Clin Cases. 2015;3:779-88.