LETTER TO THE EDITOR

Gingival Hyperplasia Induced by Erythromycin

Sir,

Erythromycin is a macrolide with an antibacterial spectrum resembling that of penicillin and by virtue of its low indices of sensitization it is frequently used in patients allergic to the latter antibiotic. Despite being so widely used, the development of toxic and/or allergic reactions is rare, so erythromycin has become established as one of the most innocuous antibiotics in current therapy. Up to the present, few cases of immediate or delayed type allergy or of fixed drug eruption from erythromycin have been reported (1–4).

Recently we had the opportunity to observe a case of gingival hyperplasia from erythromycin use. Gingival hyperplasia, or hyperplastic gingivitis, is a well-known non-allergic undesiderable drug reaction; characteristically it is a side-effect of hydantoin derivatives (5, 6), but it may also occur following Cyclosporin A (7) and nifedipine therapy (8, 9).

The pathogenetic mechanisms of these conditions are not known; however, they exhibit surprisingly similar clinical and histopathological features, in spite of their differing chemical structures, modes of action and indications of the involved drugs.

Our patient was a 6-year-old boy, who came to us with a pronounced gingival hyperplasia and moderate itching in the oral cavity. The young patient, an atopic subject with asthma, eczema and positive Phadiatop test, was suffering from tonsillitis and his general practitioner treated him with therapeutic doses of erythromycin syrup (1500 mg/daily). A week after commencing erythromycin treatment, a gingival hyperplasia originating from the anterior interdental papillae became evident and continued to increase during the following days. At the time the patient was referred to us, no dental plaque was evident, but his gingivae appeared to be increased in size, especially in the anterior portion. Moreover, the lesions also involved the palatal and lingual parts of gingivae.

There was moderate pain, both spontaneously and upon pressure. There were no clinical signs of a *Candida albicans* infection. The treatment with erythromycin was stopped and oral hygiene measures were recommended; within a few weeks the hyperplasia gradually disappeared. A month later an erythromycin challenge (1500 mg/daily) was performed, and after 2 days of administration, the lesions started afresh.

Hyperplastic gingivitis is particularly common following phenytoin therapy and was seen in about 30–70% of the patients who received this anticonvulsivant (6). Moreover it is frequently found in kidney-transplanted patients treated with Cyclosporin A, whereas no cases have been reported in patients given conventional immuno-suppressive therapy. The gingival hyperplasia observed in our patient seemed to be related to the administration of erythromycin. Ramon et al. (8) reported several patients who developed gingival hyperplasia after nifedipine therapy, which was characterized by a marked epithelial hyperplasia and acanthosis with moderate inflammatory reaction in the lamina propria. We did not perform a histological examination, for obvious reasons, but the morphology of the lesions was typical. In phenytoin and Cyclosporin A induced gingival hyperplasia, a superimposed secondary bacterial infection has been reported; in our case, careful hygiene probably prevented this development.

Analysis of the literature data regarding the occurrence of gingival hyperplasia during medication shows that there is no common correlation between commencing therapy and onset of gingival modifications. Gingival hyperplasia induced by diphenyl-hydantoin begins 1–3 weeks after starting the therapy, hyperplasia caused by nifedipine 2–7 months after therapy and, finally, cyclosporin-A hyperplasia appears within 3–4 months of drug administration.

In our patient, gingival modifications appeared a week after commencing the therapy as in the case of phenytoin-induced hyperplasia. From all these observations, we note that several drugs may be responsible for hyperplastic modifications of the gingival tissue, but that the pathogenetic mechanisms of these conditions are not known.

REFERENCES

1. Putzi R, Blaser J, Luthy R. Side effects due to erythromycin lactobionate. Infection 1983; 11: 161–163.
2. Van Ketel WG. Immediate and delayed-type allergy to erythromycin. Contact Dermatitis 1976; 2: 363–364.
3. Naik RPC, Sing G. Bullous fixed drug eruption presumably due to erythromycin. Dermatologica 1976; 52: 177–180.
4. Pigatto PD, Riboldi A, Riva F, Altomare GF. Fixed drug eruption to erythromycin. Acta Derm Venereol (Stockh) 1984; 64: 272–273.
5. AAS E. Hyperplasia gingivae diphenyl-hydantoinica. A clinical, histological and biochemical study. Acta Odont Scand 1963; Suppl. 21: 34.
6. Angelopoulos AP, Goaz PW. Incidence of diphenylhydantoin gingival hyperplasia. Oral Surg 1972; 34: 896–906.
7. Wysocki GP, Gretzinger HA, Laupacis A, Ulan RA, Stiller CR. Fibrous hyperplasia of the gingiva: a side effect of Cyclosporin A therapy. Oral Surg 1983; 55: 274.
8. Ramon Y, Behar S, Kishon Y, Engelberg IS. Gingival hyperplasia caused by nifedipine. A preliminary report. Int J Cardiol 1984; 5: 195.
9. Bencini PL, Crosti C, Sala F, Montagnino G, Tarantino A, Menni S, Piccinno R. Gingival hyperplasia by nifedine. Report of a case. Acta Derm Venereol (Stockh) 1985; 65: 362–365.

Received July 16, 1991

R. Valsecchi and T. Cainelli
Department of Dermatology
Ospedali Riuniti
I-24100 Bergamo
Italy