

Psoriasis of the tongue

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SUMMARY. Introduction: Psoriasis is a common, chronic dermatologic disease. Cases affecting the oral mucous membranes are rarely reported in the international literature, in particular tongue lesions are hardly ever documented. Material and methods: This article presents a 61 year old patient with persistent whitish lesion on his tongue. Biopsy specimens from mid surface and tip of the tongue were taken. Histopathologic sections were stained with haematoxylin–eosin (H–E) as well as with Periodic acid-Schiff (PAS) and examined by light microscopy. Results: Tongue lesions showing epithelial hyperplasia, parakeratosis, long papillae, neutrophils and microabscesses of Munro. Conclusions: The reported case suggests that the clinical and histological appearances of the lesions are consistent with mucosal psoriasis. © 2008 European Association for Cranio-Maxillofacial Surgery

Keywords: mucous membranes, oral psoriasis, psoriasis of the tongue

INTRODUCTION

Psoriasis is a common, chronic dermatologic disease with an incidence of about 2% in the western population. Usually it develops first in young adults and may be followed by periods of exacerbation and remission (Elder et al., 2001). The aetiology of the disease is unknown, but a multifactorial disease with heritable and exogenous factors is likely (Elder et al., 2001). Various triggers, such as stress, streptococcal infections, and certain medications (beta-blockers, antimalarials, lithium) are known to activate new episodes (Tsankov et al., 2000). The pathogenesis of psoriasis is characterized by an approximately 7-fold increase in turnover time of the epithelial cells (Christophers and Mrowietz, 2003). An increased influx of dendritic cells from the peripheral blood in psoriatic skin lesions, regulated by proteinaceous chemotaxins, seems to be of major importance in the pathogenesis of psoriasis (Christophers and Mrowietz, 2003; Lebwohl, 2003).

The most common form of the disease, psoriasis vulgaris, appears clinically as cutaneous erythematous plaques covered by white or silvery scales. Their size varies from only a few pinpoint lesions to large plaques. These skin lesions are characteristically found on the scalp and extensor areas of extremities. The histological appearance of epithelial changes varies with the age and activity of the lesions. Parakeratosis, acanthosis and spongiosis with budding of the tips of the rete ridges and thinning of the suprapapillary plate are usually found. Polymorphonuclear leucocytes migrate through the epithelium with the formation of intraepithelial microabscesses (Munro abscesses). Microabscesses are

characteristic of psoriasis, but not specific for the disease, nor always present. Within the dermis, at the tips of the connective tissue papillae, the capillaries show dilatation and tortuosity and a mixed inflammatory cell infiltrate is commonly seen (Lever, 1967; Montgomery, 1967; Christophers and Mrowietz, 2003).

The occurrence of true psoriatic lesions on mucous membranes is disputed. For many years it has been claimed that the disease does not affect the oral mucosa. Today it is thought that involvement of the oral cavity is rare but does exist. Oppenheim (1903) was the first to describe oral psoriasis in a biopsy after histological examination. In a review of English-language and European non-English literature Younai and Phelan (1997) only identified 57 cases of oral psoriasis. Since then seven new cases have been reported, bringing the total to 64 cases of the condition described in the literature (Robinson et al., 1996; Younai and Phelan, 1997; Brice and Danesh-Meyer, 2000; Richardson et al., 2000; Ariyawardana et al., 2004; Migliari et al., 2004; De Biase et al., 2005). The reports described a number of oral locations, such as lips, buccal mucosa, gingivae, palate, tongue and floor of the mouth. Of these, only 11 cases since 1903 have demonstrated characteristic, true psoriatic lesions on the tongue and in five of these no other non-mucosal manifestation of psoriasis was present (Younai and Phelan, 1997; De Biase et al., 2005). Clinically of the cases reviewed by Younai and Phelan, 44% of patients presented with white, 24% with erythematous, and 13% with mixed red and white intraoral lesions. The remaining lesions appeared ulcerative, vesicular, pustular, or indurated.



Fig. 1 – Lesions on the patient’s forehead at the time of presentation with psoriasis of the tongue. A clear distinction between facial psoriasis and seborrheic dermatitis cannot be made.



Fig. 3 – Intraoral appearance: psoriatic mixed white and red lesion at the dorsum and tip of the tongue.



Fig. 2 – Lesions on the patient’s nose and cheeks at the time of presentation with psoriasis of the tongue. A clear distinction between facial psoriasis and seborrheic dermatitis cannot be made.

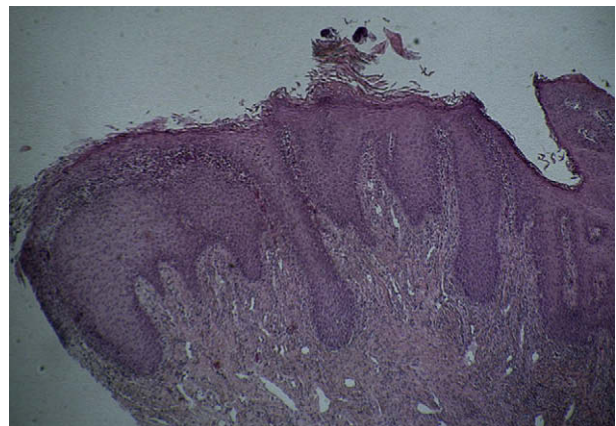


Fig. 4 – Tongue lesions exhibiting epithelial hyperplasia, parakeratosis, long papillae, neutrophils and microabscesses of Munro (magnification: $\times 200$).

The histopathological findings in oral mucous membranes are assumed to be similar to those found in skin lesions. Epithelial parakeratosis, elongated rete ridges and the presence of an inflammatory infiltrate of the upper dermis were described in most cases (*Younai and Phelan, 1997*).

We present a case of a lesion of the tongue with histological features of psoriasis in a patient with previously diagnosed concurrent skin lesions.

CASE REPORT

A 61 year old Caucasian man presented to the Prosthodontics Clinic on routine oral examination a persistent white lesion on his tongue was evident. He was referred to the Department of Oral and Maxillofacial Surgery, University Hospital Schleswig-Holstein, Campus Kiel. Skin examination showed psoriatic lesions on the right leg and face (*Figs. 1 and 2*).

The patient’s medical history did not reveal any other known disease or allergies nor was he taking any medications. He had psoriasis vulgaris which was diagnosed at the age of 45 at the Department of Dermatology, Venereology and Allergology, University Hospital Schleswig-Holstein, Campus Kiel.

The patient was partially edentulous; the tongue was oedematous with a fissured dorsum covered by a thin white layer. The white “fur” observed was adherent and did not rub off. Erythematous areas were evident laterally and at the tip of the tongue (*Fig. 3*). The remaining oral mucous membranes were not involved. Biopsy specimens from mid surface and tip of the tongue were taken.

Histopathological sections were stained with haematoxylin–eosin (H–E) as well as with Periodic acid–Schiff (PAS) and examined by light microscopy. The biopsies showed surface parakeratosis, acanthosis, psoriaform hyperplasia, long papillae and a superficial inflammatory infiltrate. Small intraepithelial microabscesses (Munro) and superficial erosions were observed (*Figs. 4 and 5*). PAS stain for fungal hyphae was negative throughout. These findings were reported as being consistent with mucosal psoriasis.

DISCUSSION

Oral lesions of psoriasis have been described in all regions of the oral mucous membranes (*Robinson et al., 1996; Younai and Phelan, 1997; Brice and Danesh-Meyer, 2000; Richardson et al., 2000; Ariyawardana*

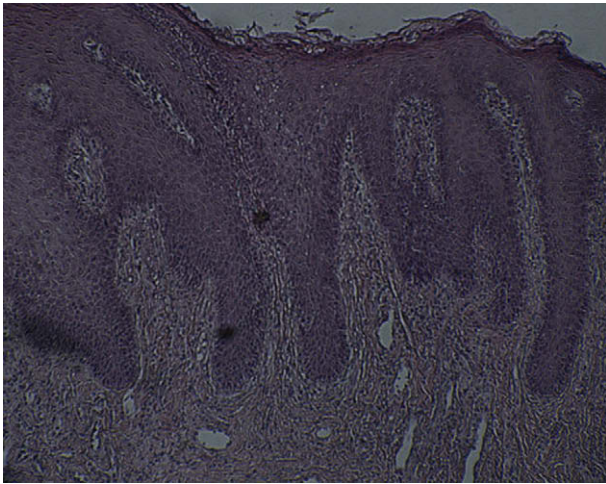


Fig. 5 – Tongue lesions exhibiting epithelial hyperplasia, parakeratosis, long papillae, neutrophils and microabscesses of Munro (magnification: $\times 400$).

et al., 2004; Migliari et al., 2004; De Biase et al., 2005). Variation of location, character, and colour may contribute to difficulties in the clinical diagnosis of the disease (Younai and Phelan, 1997). The differentiation from other oral diseases such as geographic tongue, fissured tongue, oral candidosis and the oral lesions of Reiter's syndrome may be subtle. The diagnosis is best made when the clinical features of oral lesions parallels that of skin lesions and is supported by histological investigation (Weathers et al., 1974; Younai and Phelan, 1997; Bruce and Rogers, 2003). In the present case, Reiter's syndrome could be excluded as the patient exhibited none of the other symptoms of the triad (conjunctivitis, urethritis, arthritis) associated with this disease. Oral candidosis was ruled out as PAS stain for fungal hyphae was negative. The clinical and histological appearances of the lesions did not match those of geographic or fissured tongue. Oral lichen planus and lichenoid reactions have a different clinical and histological appearances (Dunsche et al., 2003). Above all a malignant disease should be ruled out particularly with regard to the increasing number of head and neck cancer cases in the last 15 years (Lung et al., 2007).

CONCLUSION

The examination of this patient presented excluded clinically and histologically similar conditions and strongly suggested a diagnosis of oral psoriasis. However at the time of presentation mild psoriatic lesions were only present on the face and these clinically also resembled seborrheic dermatitis. Nevertheless, psoriasis with typical

erythemato-squamous plaques had been diagnosed by dermatologists previously.

References

- Ariyawardana A, Tilakaratne WM, Ranasinghe AW, Dissanayake M: Oral psoriasis in an 11-year-old child: a case report. *Int J Paediatr Dent* 14: 141–145, 2004
- Brice DM, Danesh-Meyer MJ: Oral lesions in patients with psoriasis: clinical presentation and management. *J Periodontol* 71: 1896–1903, 2000
- Bruce AJ, Rogers 3rd RS: Oral psoriasis. *Dermatol Clin* 21: 99–104, 2003
- Christophers E, Mrowietz U: Psoriasis. In: Freedberg IM, Eisen AZ, Wolff K (eds), *Dermatology in general medicine*, New York: McGraw-Hill, 407–427, 2003
- De Biase A, Guerra F, Polimeni A, Ottolenghi L, Pezza M, Richetta AG: Psoriasis of the dorsal surface of the tongue. *Minerva Stomatol* 54: 525–529, 2005
- Dunsche A, Kästel I, Terheyden H, Springer IN, Christophers E, Brasch J: Oral lichenoid reactions associated with amalgam: improvement after amalgam removal. *Br J Dermatol* 148: 70–76, 2003
- Elder JT, Nair RP, Henseler T, Jenisch S, Stuart P, Chia N, Christophers E, Voorhees JJ: The genetics of psoriasis 2001: the odyssey continues. *Arch Dermatol* 137: 1447–1454, 2001
- Lebwohl M: Psoriasis. *Lancet* 361: 1197–1204, 2003
- Lever WF: *Histopathology of skin*, Philadelphia: J.B. Lippincott Company, p. 141–144, 1967
- Lung T, Tășcău OC, Almășan HA, Mureșan O: Head and neck cancer, epidemiology and histological aspects – part 1: a decade's results 1993–2002. *J Craniomaxillofac Surg* 35: 120–125, 2007
- Migliari DA, Penha SS, Marques MM, Matthews RW: Considerations on the diagnosis of oral psoriasis: a case report. *Med Oral* 9: 300–303, 2004
- Montgomery H: *Dermatopathology*. New York: Harper & Row, p. 309–352, 1967
- Oppenheim M: Psoriasis mucosae oris. *Monatsschr Prakt Dermatol* 37: 481, 1903 [in German]
- Richardson LJ, Kratochvil FJ, Zieper MB: Unusual palatal presentation of oral psoriasis. *J Can Dent Assoc* 66: 80–82, 2000
- Robinson CM, DiBiase AT, Leigh IM, Williams DM, Thornhill MH: Oral psoriasis. *Br J Dermatol* 134: 347–349, 1996
- Tsankov N, Angelova I, Kazandjieva J: Drug-induced psoriasis. Recognition and management. *Am J Clin Dermatol* 1: 159–165, 2000
- Weathers DR, Baker G, Archard HO, Burkes Jr EJ: Psoriasiform lesions of the oral mucosa (with emphasis on “ectopic geographic tongue”). *Oral Surg Oral Med Oral Pathol* 37: 872–888, 1974
- Younai FS, Phelan JA: Oral mucositis with features of psoriasis: report of a case and review of the literature. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 84: 61–67, 1997

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