



Oral lichen planus in a child in association with psychological stress: A case report

Arghavan Tonkaboni ^{1*}, Bita Maraghehpour ²

1. Department of Oral Medicine, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran.

2. Dentist, MPH, Department of Health Promotion and Community Health Sciences, Texas A&M University Health Science Center, College Station, Texas, United States of America.

ARTICLE INFO

Article Type: Case Report

Received: 23 Apr. 2018

Revised: 28 May. 2018

Accepted: 11 Jun. 2018

*Corresponding author:

Arghavan Tonkaboni

Department of Oral Medicine, School of Dentistry, Tehran University of Medical Sciences, Tehran, Iran.

Tel: +98-21-84902473

Fax: +98-21-84902473

Email: a.tonkaboni@Yahoo.com

ABSTRACT

Oral lichen planus (OLP) is a chronic autoimmune cell-mediated disease affecting mucocutaneous tissues of oral cavity. Recent studies revealed that psychological stress may act as a trigger to initiate clinical symptoms. An 8-year-old girl complaining of oral ulcer, pain and irritation in mouth with onset of 3 months ago, was admitted to oral medicine department. Her medical history was negative except for severe psychological trauma in last 6 months. Intraoral examination showed bluish purple atrophic erosive striations with hyperkeratosis. Pathological study of buccal lesions confirmed OLP diagnosis. As all primary investigations were negative; psychogenic origin was suspected. Although it is rare for a child to have OLP but it should be taken into consideration in differential diagnosis of red and white oral lesions in children. Huge impact of psychological factors in the occurrence of oral diseases have suggested that they should be treated in combination with psychotherapy.

Keywords: Oral, Lichen planus, Infant, Stress.

Introduction

Lichen Planus (LP) is a chronic inflammatory mucocutaneous condition which can affect the skin, genitalia and oral mucosa [1]. Although OLP is common in middle-aged population with a woman to man ratio of 2:1; it is rare in children and there are only few published reports about it [2]. The exact etiology for OLP is unknown, but the recent studies have suggested the immunopathology basis as the most reasonable etiology in which the changed antigenicity of basal epithelial cells are recognized as a trigger to cause abnormal cell-mediated response [3]. Also T lymphocyte induced cytokine production leads to local inflammation. Some of the recent

studies have shown that in a number of patients, anxiety, depression and psychological, as well as emotional stress were triggers to initiate oral lesions [4,5]. The oral lesions are mostly characterized as reticular, plaque-like keratosis with or without atrophic, erosive and bullous lesions which significantly involves the buccal mucosa and tongue [6]. Here, we present a case of an eight year old girl with the history of long term psychological stress, having oral lichen planus in the buccal mucosa.

Case Report

An 8-year-old girl with chief complaint of oral ulcer, pain and irritation in mouth with onset of 3 months ago, was admitted to oral medicine department. There was no alleviating or aggravating factors for her pain and irritation. Her medical history was not significant except for severe psychological trauma and long term stress in last 6 months due to parental divorce and subsequent familial issues. Family history was unremarkable. Intraoral examination showed a 2cm *2.5cm ulcer on the hard palate with atrophic area around it (Figure 1). She had annular and reticular keratosis lesions on her buccal mucosa which include erosive areas (Figure 2). The dental state and oral hygiene were good and there were no other pathological lesions detected. Also whole body examination revealed no other skin or mucosal lesions.

An incisional biopsy from the lateral margin of buccal lesion was performed and histopathological assessment confirmed primary diagnosis. There was no history of any drug intake, so that we could exclude lichenoid reactions from lichen planus. Patients underwent medical therapy with 15ml betamethasone from 0.6mg/5ml oral solution q12h and 4ml nystatin from 100,000unit/ml oral q6h. This regimen was administered for three months and there was a complete remission in buccal lesions. Pediatric psychologist interviewed our patient during her admission in hospital and he confirmed generalized anxiety disorder by means of anxiety test. According to the psychologist's words, the initiation of her stressful condition occurred after the parents' divorce.

The patient was under close observation of psychiatrist during her admission and psychotherapy sessions were conducted. Although our patient was set to attend follow up visits monthly, but she dropped psychotherapy and as a result her palatal lesions were relapsed 6 months after initial remission (Figure 3).

Discussion

Here, we reported histologically proved OLP in an eight-year-old female. Based on our investigation, the most significant etiological factor in this patients are her severe psychological acute stress. Lichen planus is a chronic inflammatory disease that was first described by Erasmus Wilson in 1969, as the oral type of the disease which was first brought to the literature in 1920 [7]. As long as oral lichen planus is scarce in children, there are few literatures reporting cases of this condition [8], and a number of them have described several

predisposing factors for this condition such as chronic active hepatitis and graft versus host disease [9]. Also the oral lesions have occurred followed by HBV vaccinations in a few cases as Agrawal et al. reported a similar case in the year 2000 [10]. Familial lichen planus is uncommon and according to what Milligan reported in 1990, it occurs in 1-2 % of cases [11], at an early age and with a more noticeable severity.

Dusk & Frick et al [12] described that psychogenic conditions should be considered as trigger factors for OLP along with previously known medical conditions. In this regard depression, anxiety and stress were the most frequent psychogenic conditions leading to OLP. Jakovljević et al [13] claimed that anxiety may result in activation of autonomic nervous system as a response to an internal danger which eventually leads to psychosomatic disease in patients with prolonged stress. Gruden et al [14] reported a similar case in 2009. Their patient was a 10-year-old boy presenting with a sore in his mouth which revealed to be OLP after medical examination and histopathological study. They ran blood test which was not indicative for any significant change. Psychiatric evaluation showed a tendency towards emotional instability and depression which was later confirmed by depression and anxiety tests.

Conclusion

In the light of our experience about the discussed patient, it seems that psychological pathologies especially anxiety may play an important role in the initiation of OLP. Thus we recommend that psychological evaluation be considered in patients with clinical suspicion to OLP with negative medical and familial history along with negative laboratory tests. It would be better to mention patient's psychological conditions to maintain better result by their treatment.

Conflict of Interest

There is no conflict of interest to declare.

References

- [1] Vincent, S.D., et al., Oral lichen planus: the clinical, historical, and therapeutic features of 100 cases. *Oral Surg Oral Med Oral Pathol*, 1990. 70(2): p. 165-71.
- [2] Nanda, A., et al., Childhood lichen planus: a report of 23 cases. *Pediatr Dermatol*, 2001. 18(1): p. 1-4.
- [3] Shah, B., L. Ashok, and G.P. Sujatha, Evaluation of salivary cortisol and psychological factors in pa-

tients with oral lichen planus. *Indian J Dent Res*, 2009. 20(3): p. 288-92.

- [4] Sandhu, S.V., et al., Oral lichen planus and stress: An appraisal. *Contemp Clin Dent*, 2014. 5(3): p. 352-6.
- [5] Nadendla, L.K., et al., Association of salivary cortisol and anxiety levels in lichen planus patients. *J Clin Diagn Res*, 2014. 8(12): p. Zc01-3.
- [6] Aguirre, J.M., et al., Efficacy of mometasone furoate microemulsion in the treatment of erosive-ulcerative oral lichen planus: pilot study. *J Oral Pathol Med*, 2004. 33(7): p. 381-5.
- [7] Mohan Das, U. and B. Jp, Oral lichen planus in children. *Int J Clin Pediatr Dent*, 2009. 2(1): p. 49-51.
- [8] Balasubramaniam, P., M. Ogboli, and C. Moss, Lichen planus in children: review of 26 cases. *Clinical and experimental dermatology*, 2008. 33(4): p. 457-459.
- [9] Patel, S., C.M. Yeoman, and R. Murphy, Oral lichen planus in childhood: a report of three cases. *Int J Paediatr Dent*, 2005. 15(2): p. 118-22.
- [10] Agrawal, S., et al., Lichen planus after HBV vaccination in a child: a case report from Nepal. *J Dermatol*, 2000. 27(9): p. 618-20.
- [11] MILLIGAN, A. and GRAHAM-BROWN, R.A.C. (1990), Lichen planus in children—a review of six cases. *Clinical and Experimental Dermatology*, 15: 340–342. doi: 10.1111/j.1365-2230.1990.tb02108.x
- [12] Dusek, J.J. and W.G. Frick, Lichen planus: oral manifestations and suggested treatments. *Journal of Oral and Maxillofacial Surgery*, 1982. 40(4): p. 240-244.
- [13] Jakovljević, M., Myths and facts in contemporary psychopharmacotherapy: evidence-based vs. evidence-biased treatment algorithms practice. *Psychiatria Danubina*, 2007. 19(4): p. 342-349.
- [14] Gruden Pokupec, J.S., V. Gruden, and V. Gruden Jr, Lichen ruber planus as a psychiatric problem. *Psychiatria Danubina*, 2009. 21(4): p. 514-516.

Please cite this paper as:

Tonkaboni A, Maraghehpour B; Oral lichen planus in a child in association with psychological stress. *J Craniomaxillofac Res* 2018; 5(3): 136-138