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Intercollegiate Specialty Fellowship Examination in Oral Medicine

CRITICAL APPRAISAL SECTION
Date

Time Allowed: 2 Hours

Candidates should attempt ALL questions

Instructions to candidates

- Ensure that you are sitting at the desk bearing your candidate number.
- You have the following booklets:
  - Critical Appraisal Questions
  - Critical Appraisal Extracts
  - Answer booklets
- There are two extracts and questions on each extract in a separate booklet.
- You are strongly advised to read the questions before reading the extracts.
- Attempt all questions: marks will not be deducted for incorrect answers.
- When a specific number of answers is required in a question, only this number of aswers will be allocated marks: i.e. if the question asks for two answers only the first two answers will be allocated marks.
- Use a separate answer book for each extract. Clearly write your Candidate number and the extract number on the front of each answer book.
- Begin the answer to each question on a new page of the answer booklet. Separate each answer by inserting the appropriate question number.
- If you require an additional answer book, raise your hand and the invigilator will provide this.
- Write legibly using a pen. Mistakes should be crossed out.

DO NOT REMOVE THE EXAMINATION PAPERS OR THE ANSWER BOOKS, EITHER IN WHOLE OR IN PART, FROM THE EXAMINATION ROOM.

Prompt healing of erosive oral lichen planus lesion after combined corticosteroid treatment with locally injected triamcinolone acetonide plus oral prednisolone

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treatment

Background/Purpose: Erosive oral lichen planus (EOLP) is a T-cell-mediated inflammatory disease that is refractory to treat. This study tested whether local injection of triamcinolone acetonide plus oral administration of low- or medium-dose prednisolone could hasten the healing of EOLP lesions.
Methods: In this study, 50 EOLP patients were treated with local injection of Kenacort A (40 mg triamcinolone acetonide once weekly for 3 and 2 weeks for 30 major and 20 minor EOLP patients, respectively) plus oral administration of prednisolone (25e30 mg and 15e20 mg of prednisolone once daily for 2 weeks for 30 major and 20 minor EOLP patients, respectively). The oral administration of prednisolone was tapered to 5 mg per day and stopped in 7 days. Then, the patients were treated with topical Dexaltin (0.1% dexamethasone, once or twice per daily) and oral administration of vitamin Bc (one capsule twice daily) thereafter.
Results: After 3-week treatments, the 30 major EOLP patients showed complete response (lack of detectable erosive or ulcerative lesion with absence or regression of reticular or papular OLP) in 27 cases (90%) and partial response (reduction of erosive or ulcerative lesion by at least 30% in diameter with regression of reticular or papular OLP) in cases (10%); and 20 minor EOLP patients demonstrated complete response in 18 cases (90%) and partial response in two cases (10%). However, all the 45 complete response major or minor EOLP patients showed recurrence of erosive or ulcerative lesion after 3e24 (mean 12) months of follow-up.
Conclusion: Prompt and complete healing of the EOLP lesions could be achieved in a relative short period of time after treatment with our protocol. Although complete response EOLP lesions recurred after a follow-up period of 3e24 months, patients did have an average remission period of 12 months after treatment with our protocol.

Introduction

Oral lichen planus (OLP) is a chronic inflammatory oral mucosal disease. Both antigen-specific and nonspecific mechanisms are involved in the pathogenesis of OLP. Antigen-specific mechanisms include antigen presentation by basal keratinocytes and antigen-specific keratinocyte killing by $CD8^b$ cytotoxic T lymphocytes. Nonspecific mechanisms include mast cell degranulation and matrix metalloproteinase activation in OLP lesions.[1,2] Through mast cell/T-cell interactions in OLP lesions, mast cell-released cytokines, chemokines and matrix metalloproteinases can promote T-cell activation, migration, proliferation and differentiation.[3] OLP is histologically characterized by liquefaction degeneration of basal epithelial cells and an intraepithelial and subepithelial infiltrate of $CD8^b$ cells in the superficial lamina propria. $CD4^b$ cells are observed mainly in the deep lamina propria.[4] An increase in histocompatibility leukocyte antigen (HLA)-DR-positive $CD3^b$ cells in both the local lesional tissues and peripheral lymphocytes also indicates T-cell activation in OLP.[5,6] The above findings suggest that OLP is a T-cell-mediated inflammatory disease.

Clinically, patients with the reticular, papular or plaque type of OLP usually have minor or no symptoms, but patients with erosive OLP (EOLP) often have significant symptoms of pain and a burning sensation at the oral mucosa. Therefore, the most important aim of EOLP treatment is to promote the healing of erosive or ulcerative oral mucosal lesions. This study tested whether local injection of 40 mg triamcinolone acetonide once weekly for 2e3 weeks plus oral administration of 15e30 mg prednisolone once daily for 2 weeks could hasten the healing of EOLP lesions and allow the OLP patients to obtain a relatively long period of lesion remission.

Materials and methods

Subjects

The study group consisted of 50 EOLP patients (seven men and 43 women, age range 29e78 years, mean 54.8 years) without LP of other mucosal or skin surfaces. All the patients were seen consecutively, diagnosed, and treated in the Department of Oral Diagnosis of National Taiwan University Hospital from July 2005 to June 2008. OLP patients with areca quid chewing habit, hypertension, and autoimmune diseases such as systemic lupus erythematosus, rheumatoid arthritis, Sjo¨gren's syndrome, pemphigus vulgaris, and cicatricial pemphigoid were excluded. In addition, none of the patients had taken any prescription medication for at least 3 months before entering the study. Patients were selected according to the following criteria: (1) a typical clinical presentation of radiating grayish-white Wickham striae or papules combined with erosion or ulceration on the bilateral posterior buccal or vestibular mucosa; and (2) biopsy specimens characteristic of OLP, that is, hyperkeratosis or parakeratosis, a slightly acanthotic epithelium with lique-faction degeneration of the basal epithelial cells, a pronounced band-like lymphocytic infiltrate in the lamina propria, and the absence of epithelial dysplasia. The EOLP was further divided into the major (30 patients with erosive or ulcerative lesions _ 1 cm in diameter) and minor types (20 patients with erosive or ulcerative lesions < 1 cm in diameter) according to criteria described previously.[7]

After pathological diagnosis was confirmed, the 50 EOLP patients were treated with a local injection of 40 mg Kenacort A (triamcinolone acetonide) that was dissolved in 2 mL injection water and injected into the submucosa of the erosive or ulcerative OLP lesions at the bilateral posterior buccal or vestibular mucosa (1 mL for each side of lesion). The local injection was performed once weekly for 2 (for minor EOLP patients) or 3 weeks (for major EOLP patients). In addition, oral administration of 15e20 mg of prednisolone (for minor EOLP patients) or 25e30 mg of prednisolone (for major EOLP patients) once daily was given to each patient for 2 weeks. The oral administration of prednisolone was tapered to 5 mg per day and stopped in 7 days. Then, the patients were treated with topical Dex-altin (0.1% dexamethasone, once or twice daily) and oral vitamin Bc (one capsule twice daily) thereafter. The patients were examined once a week for 4 weeks and then once a month thereafter. Clinical photographs were taken at each patient visit for evaluation of lesion progression or regression. Lesion response was evaluated with special regard to the erosive or ulcerative lesions and character-ized as follows: complete response, lack of detectable erosive or ulcerative lesion with absence or regression of reticular or papular OLP confirmed by clinical evaluation; partial response, reduction of erosive or ulcerative lesion by at least 30% in diameter with regression of reticular or papular OLP; and no response, reduction of erosive or ulcerative lesion by less than 30% in diameter with regres-sion of reticular or papular OLP. All lesion responses were evaluated at the completion of the 3-week treatment. The duration of recurrence was measured from the end of the 3-week treatment to the time of recurrence. This study was reviewed and approved by the Institutional Review Board at the National Taiwan University Hospital.

Results

In this study, 50 EOLP patients were treated with local injection of Kenacort A (40 mg triamcinolone acetonide once weekly for 3 and 2 weeks for 30 major and 20 minor EOLP patients, respectively) plus oral prednisolone (25e30 mg and 15e20 mg prednisolone once daily for 2 weeks for 30 major and 20 minor EOLP patients, respec-tively). After the 3-week treatments, the 30 major EOLP patients showed complete response in 27 cases (90%) (Fig. 1) and partial response in three cases (10%); and the 20 minor EOLP patients demonstrated complete response in 18 cases (90%) (Fig. 2) and partial response in two cases (10%) (Table 1). The EOLP patients were then treated with topical Dexaltin once or twice daily and oral vitamin Bc (one capsule twice daily) 3 weeks later. All the 27 complete response major EOLP patients showed recurrence of erosive or ulcerative lesion after 3e24 (mean 12 _ 5) months of follow-up. In addition, all the 18 complete response minor EOLP patients demonstrated recurrence of erosive or ulcerative lesion after 3e24 (mean 12 _ 6) months of follow-up (Table 2). The recurrence EOLP patients were treated with the same protocol (local injection plus oral administration of corticosteroid) as before and the majority of the patients could achieve complete response after receiving the same treatment modality (data not shown).

Table 1 Lesion response in 30 patients with major erosive oral lichen planus (EOLP) and 20 patients with minor EOLP after 3-week treatments of local injection and oral administration of corticosteroid.

	Number of patients		
	Total	Complete response	Partial response
EOLP patients	50	45	5
Major type	30	27	3
Minor type	20	18	2

Table 2 Recurrence of erosive oral lichen planus (EOLP) lesions in 27 major EOLP and 18 minor EOLP patients with complete response after 3-week treatments of local injection and oral administration of corticosteroid.

Duration (mo)	Number of patients		
	Total (n Z 45)	Major EOLP (n Z27)	Minor EOLP (n Z18)
3	2	1	1
4	2	1	1
6	3	2	1
8	4	2	2
9	6	4	2
10	6	4	2
12	5	3	2
14	1	0	1
15	5	3	2
16	1	1	0
18	4	2	2
20	1	1	0
21	3	2	1
24	2	1	1

Extract 1

Prompt healing of erosive oral lichen planus lesion after combined corticosteroid treatment with locally injected triamcinolone acetonide plus oral prednisolone.
Ru-Cheng Kuo, Hung-Pin Lin, Andy Sun Yi-Ping Wang, Journal of the Formosan Medical Association (2013), 112, 216-220

1. Does this paper ask a clear and focused research question? Explain. **(2 marks)**

2. What type of study is described in this paper? **(2 marks)**

3. (a) What do you understand by the term 'hierarchy of evidence'? **(2 marks)**

   (b) List, in order, the types of study designs you might find in this hierarchy. **(6 marks)**

   (c) Where does this study sit in the 'hierarchy of evidence'? **(1 mark)**

   (d) Are there any criticisms of the 'hierarchy' as it currently stands? **(2 marks)**

4. (a) This journal has a listed 'impact factor'. How is a journal's 'impact factor' established? **(4 marks)**

   (b) What is its significance? **(2 marks)**

5. (a) Is sufficient information provided in the Abstract on the first page for you, as a busy clinician, to make a critical judgement about the study without reading the entire paper? **(1 mark)**

   (b) Explain your answer. **(4 marks)**

6. (a) What flaws do your perceive in this study? **(3 marks)**

   (b) How might the study design have been improved? **(3 marks)**

7. Comment on the outcome measures used in this study. **(4 marks)**

8. Do you have any ethical concerns about this study? Explain. **(2 marks)**

9. Will this paper impact upon your clinical practice? Explain. **(2 marks)**

TOTAL MARKS FOR EXTRACT 1 = 40