Effect of Tonsillectomy on Recurrence of Psoriasis

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Abstract

Background: To assess the effectiveness of tonsillectomy in the management of guttate psoriasis.

Methods: In this descriptive study, fifty patients with psoriasis, along with chronic tonsillitis were included. All subjects who showed the signs of any systemic disease were excluded from study. Patients underwent tonsillectomy and then the effects of tonsillectomy on skin patches were observed in all the patients.

Results: The patient’s age ranged between 13-27 years. Majority (60%) were males. Forty-four percent showed complete cure after tonsillectomy while 12% showed partial cure.

Conclusion: Tonsillectomy does have a beneficial effect on course of psoriasis.

Key Words Psoriasis, Tonsillectomy

Introduction

Psoriasis is an autoimmune disease of the skin. Immune system mistakes the skin cells as a pathogen, and sends out signals that speed up the growth cycle of skin cells. Psoriasis is not contagious. However, psoriasis has been linked to an increased risk of stroke, and treating high blood lipid levels may lead to improvement.

There are five types of psoriasis: plaque, guttate, inverse, pustular and erythrodermic. The most common form, plaque psoriasis, is commonly seen as red and white hues of scaly patches appearing on the top first layer of the epidermis (skin).

In psoriasis, DNA is an inflammatory stimulus. DNA stimulates the receptors on plasmacytoid dendritic cells, which produce interferon-α, an immune stimulatory signal (cytokine). In psoriasis, keratinocytes produce antimicrobial peptides. In response to dendritic cells and T cells, they also produce cytokines, such as interleukin-1, interleukin-6, and tumor necrosis factor-α, which signals more inflammatory cells to arrive and produces further inflammation.

Guttate psoriasis is characterized by numerous small, scaly, red or pink, teardrop-shaped lesions. Numerous spots of psoriasis appear over large areas of the body, primarily the trunk, but also the limbs and scalp. Guttate psoriasis is often preceded by a streptococcal infection, typically streptococcal pharyngitis. Although it is well known that psoriasis may be precipitated by streptococcal infection, there is no firm evidence to support the use of antibiotics either in the management of established psoriasis or in preventing the development of psoriasis following streptococcal sore throat. Although both antibiotics and tonsillectomy have frequently been advocated for patients with recurrent guttate psoriasis or chronic plaque psoriasis, there is to date no strong evidence that either intervention is beneficial. This study had been carried out to study the effectiveness of tonsillectomy in the management of guttate psoriasis.

Patients and Methods

This descriptive study was carried out at Holy Family Hospital Rawalpindi, from January 2009 to June 2012. Diagnosed cases of guttate psoriasis; both genders, of all age groups (age range is 13-27 yrs in this study), who were also suffering from recurrent tonsillitis, were included in the study. Patients suffering from other systemic diseases were excluded from the study. They were examined for skin patches and extent of the disease was recorded. Tonsillectomy was performed in all fifty patients. Follow up of the patients was performed every month up to one year. Patients in whom the skin lesions disappeared were included in group of completely cured. Patients who showed 50% reduction in skin lesions were included in partially cured group.

Results

Total 50 patients were included in the study. Average age of patients was 18.62±4.94, with minimum age of 13 years and maximum of 27 years (Figure-1). Thirty (60%) patients were males while 20 (40%) patients were females. Nineteen (38%) patients had positive family history of psoriasis (Table 1).
Complete resolution was observed in 44% cases as 99% of their skin lesions were resolved (Table 2).

**Table 1: Psoriasis with chronic tonsillitis**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>No(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive family history of Psoriasis</td>
<td>19(38)</td>
</tr>
<tr>
<td>Throat swab revealed beta haemolytic streptococcus</td>
<td>25( 50 )</td>
</tr>
<tr>
<td>ASO titer</td>
<td></td>
</tr>
<tr>
<td>&lt; 200 IU/l</td>
<td>10 (20)</td>
</tr>
<tr>
<td>&gt;200 to 800 IU/l</td>
<td>17(34)</td>
</tr>
<tr>
<td>&gt;800 IU/l</td>
<td>23(46)</td>
</tr>
</tbody>
</table>

**Table 2: Effect of Tonsillectomy on Psoriasis**

<table>
<thead>
<tr>
<th></th>
<th>No(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely cured</td>
<td>22(44)</td>
</tr>
<tr>
<td>Partially cured</td>
<td>6(12)</td>
</tr>
<tr>
<td>Not affected</td>
<td>22(44)</td>
</tr>
</tbody>
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Figure-1: Age distribution of patients (n = 50)

**Discussion**

The word guttate is derived from the Latin word *gutta*, meaning drop. Guttate psoriasis primarily occurs on the trunk and the proximal extremities, but it may have a generalized distribution. New guttate psoriasis lesions develop during the first month of disease. They remain stable during the second month, and the remission begins during the third month. Guttate psoriasis is more common in individuals younger than 30 years. An upper respiratory tract infection from group A beta-hemolytic streptococci (e.g., *Streptococcus pyogenes*) often precedes the eruption by 2-3 weeks. 7

Episodes may recur, especially in those due to pharyngeal carriage of streptococci. Isolated attacks have also been described. The sudden appearance of the papular lesions in response to streptococcal infection may be either the first manifestation of psoriasis in a previously unaffected individual or an acute exacerbation of long-standing plaque psoriasis. Uncommonly, guttate psoriasis may be chronic in nature and/or arise in the absence of preceding streptococcal infection.

In present study 44% of patients showed complete cure after tonsillectomy and 12% of patients showed partial cure. These results are partially comparable to the study performed by Hone, et al.8 They observed 13 patients with psoriasis exacerbated by recurrent tonsillitis. All of them underwent tonsillectomy. Psoriasis was cleared completely after tonsillectomy in five out of the six patients (83%) with guttate psoriasis and was improved in one patient. They concluded that tonsillectomy would be a successful treatment modality in selected patients with recalcitrant guttate or chronic plaque psoriasis. Treatment outcomes of tonsillectomy were studied by Takahara, in 7 Japanese patients with psoriasis, aged 9 to 46 years; followed up 2 to 9 years after tonsillectomy. All skin lesions disappeared in 3 patients, 80% of those in 2, and no change in the remaining 2 during follow-up. Of 5 in whom skin lesions improved, 4 were females, had a history of tonsillitis making skin lesions worse. The proposed mechanism of benefit from the surgery is that it removes an important source of circulating pathogenic T cells generated in the palatine tonsils. The T cells respond to antigenic short peptides common to streptococcal M-protein and skin keratins. 6

**References**