A systematic review of tonsillectomy as a treatment for guttate or plaque psoriasis

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Abstract / Introduction

- Psoriasis is a chronic, inflammatory, immune-mediated disease that affects 3.2% of adults in the United States.
- Streptococcal infection has been associated with psoriasis onset in some patients.
- Although exact mechanism is unknown, a pathogenic streptococcal trigger residing in the palatine tonsils may act through mechanism of molecular mimicry to activate skin-homing T cells in psoriasis.
- Through a comprehensive search of over 50 years of literature, we sought to determine if tonsillectomy reduces psoriasis severity.
- We identified observational studies and clinical trials examining psoriasis after tonsillectomy.
- We found that tonsillectomy may be a potential option for patients with recalcitrant psoriasis associated with episodes of tonsillitis.

Methods

- We searched MEDLINE, CINAHL, Cochrane, EMBASE, Web of Science, and OVID databases for articles published August 1, 1960, to September 12, 2013. For MEDLINE, the following Medical Subject Headings (MeSH) were combined using AND command:
  - Psoriasis [MeSH]
  - Tonsillectomy [MeSH Major Topic] OR Tonsillitis [MeSH Major Topic].
- Inclusion criteria: controlled studies or observational studies of psoriasis patients (guttate or plaque) who underwent tonsillectomy and had at least 1 evaluation of psoriasis post-procedure; case reports & case series included.
- Exclusion criteria: studies addressing related conditions or dermatoses.

Results

- Based on aforementioned inclusion & exclusion criteria, we identified 674 initial citations published over the past 53 years.
- After removal of duplicates, 249 citations were selected for additional assessment. (Figure 1)
- MEDLINE search yielded 57 unique citations, EMBASE and CINAHL searches resulted in 239 and 139 citations, respectively. OVID search results generated 191 results. Cochrane Database and Web of Science searches produced 5 and 42 citations, respectively.
- One citation of interest was located manually from evaluating a review article.
- A total of 61 records were entered into next stage of detailed evaluation. We further eliminated 41 records because they did not fulfill inclusion & exclusion criteria.
- We finally selected 20 records that met all inclusion and exclusion criteria of the systematic review. Specifically, 1 randomized controlled trial, 1 retrospective study, 4 prospective observational studies, 7 case reports, and 7 case series were included.

- Of 410 reported cases of patients with psoriasis who underwent tonsillectomy, 290 experienced improvement of their psoriasis. Duration of follow-up in the studies ranged from 2 months to 10 years.

Discussion

- This systematic review examines data from 545 patients from 8 countries in 20 studies.
- The majority of patients experienced improvement in psoriasis severity after tonsillectomy, some as early as 2 months post-procedure.
- Some patients reported prolonged psoriasis-free periods after tonsillectomy, relative to disease-free periods before tonsillectomy.
- In some patients post-tonsillectomy, psoriasis flares were more responsive to treatment than they had been before the procedure.
- However, controlled studies and studies with long-term follow-up are lacking to determine duration and extent of benefit from tonsillectomy.
- Based on quality of available literature, there is insufficient evidence to recommend tonsillectomy uniformly for patients whose psoriasis has possible association to tonsillitis.
- In certain cases, tonsillectomy may be reserved for selected patients with recalcitrant and recurrent psoriasis exacerbations associated with chronic tonsillitis.
- Importantly, in patients considering tonsillectomy, clinicians need to inform them of potential adverse events associated with tonsillectomy, including infection, hemorrhage, laryngospasm, bronchospasm, temporomandibular joint dysfunction, and vocal changes. Rare but serious adverse events include airway compromise secondary to edema.

Summary & Conclusion

Based on this comprehensive systematic review on the effect of tonsillectomy on psoriasis, we found that although tonsillectomy is effective in ameliorating psoriasis in a subpopulation of patients, there are insufficient data to describe differences in clinical characteristics between responders vs. nonresponders to tonsillectomy. Clinicians need to evaluate patients on an individual basis and reserve tonsillectomy for patients with recalcitrant and recurrent psoriasis exacerbations clearly associated with chronic tonsillitis. Controlled studies with long-term follow-up are necessary to determine precise impact of tonsillectomy on psoriasis severity and recurrence and to characterize types of patients most likely to benefit from this procedure.

Bibliography