Management of Xerostomia and Other Complications of Sjögren's Syndrome

Andres Pinto, DMD, MPH, FDS RCSEd

KEYWORDS

• Sjögren's syndrome • Xerostomia • GRADE • Management • Systematic review

KEY POINTS

- Xerostomia and salivary hypofunction are the most common oral complications of Sjögren's syndrome (SS).
- Oral burning, dysphagia, and taste abnormalities are additional complaints seen in SS.
- There is low evidence on the efficacy of interventions for oral burning, dysphagia, and taste disorders in SS.
- Sialogogues have moderate to high evidence of efficacy for the management of xerostomia and salivary hypofunction in SS.

Xerostomia and salivary gland hypofunction are well-documented oral complications of SS. Xerostomia is defined as patient perception of oral dryness, whereas salivary hypofunction is the objective validation of oral dryness based on flow measurement.[1,2] The latter is a major complication of SS and is directly linked to the diagnosis of this condition.[2,3] Additional oral complications have recently been described as more is documented about the oral sequelae of this disorder. The purpose of this article is to perform a systematic review of the published literature in English, focusing on the management of the oral complications of SS (excluding dental caries). Definitions of these complications are discussed in an article by Napeñas and Rouleau in this issue.

METHODS

Search Strategy

Based on several discussions with experts in SS, the author selected the following oral complications of SS: xerostomia and salivary gland hypofunction, oral lesions, sensory complaints (oral burning, dysphagia, and dysgeusia) and fungal infections. The search strategy was defined with the help of a medical informationist and a detailed description is found in the Appendix 1. The terms used to formulate the review questions (and inclusion criteria) are presented in **Table 1**. The search was performed in PubMed (Medline), in English and included the published literature between January 1, 1950, and May 31, 2013.

The abstracts of identified articles were reviewed by the author. Relevant full-text articles were selected to be included in the final review. The selection process is described in **Fig. 1**. Bibliographies of selected articles were reviewed in detail to find additional studies that may have been missed by the initial search. Additional effort was done to contact authors of primary articles for suggestions of studies not included in the initial selection.

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Department of Oral and Maxillofacial Medicine and Diagnostic Sciences, University Hospitals Case Medical Center and Case Western Reserve University School of Dental Medicine, 2124 Cornell Road, Room 1190, Cleveland, OH 44106, USA
E-mail address: andres.pinto@uhhospitals.org

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Table 1
Study question

Study Question	PICO Format
Population	Patients diagnosed with SS (primary or secondary)
Intervention	Clinical trials, controlled studies, controlled clinical trials, comparative studies, and meta-analysis
Control group	SS patients using comparator medication or placebo (when available)
Outcome	Subjective or objective improvement in oral dryness, number and/or frequency of oral lesions, oral burning, dysgeusia, dysphagia, clinical resolution of oral fungal infection

Data Abstraction and Evidence Grading

Study characteristics were abstracted to data forms for evidence rating. Rating was done independently for each selected complication of SS. Guidelines and free software provided by the Grading of Recommendations Assessment, Development and Evaluation (GRADE) group were followed for form development and to assess the available evidence.[4–6] Briefly, studies were assessed for risk of bias, inconsistency of the direction of results across studies, precision of effect estimates, use of surrogate outcomes (indirectness), and publication bias (available at: http://www.gradeworkinggroup.org/index.htm) (**Table 2**).

RESULTS

Xerostomia and Salivary Hypofunction

Extensive literature has been published focusing on the effect of therapeutic interventions for the management of xerostomia and reduced salivary flow in SS: 43 studies included assessment of changes in perception of oral dryness or salivary flow[1–3,7–46]; 37 had sialometry as a primary or secondary outcome; 15 studies included randomization across groups in their study design (**Table 3**)[1,14,16,17,19,20,24,26,27,30,31,36,37,39,45]; and 5 studies included a crossover design with different washout periods.[8,9,15,17,22] Additional study designs that addressed xerostomia or hypofunction were pilot short-term trials, safety trials, placebo-controlled (not randomized) trials, and quasiexperimental observational designs. Two studies were systematic reviews of therapeutic trials for the management of dry mouth.[2,18] The Cochrane review published in 2011[18] was limited to topical therapies for xerostomia and reported low evidence to support the efficacy a specific intervention. Local salivary stimulation and moisture reservoirs showed promising results for future trials. The systematic review published in 2002[2] did not consider trials that involved cevimeline, a muscarinic agonist that was reaching the international market at that point. The same review identified 2 trials with low bias that included SS patients; both were interventions with a systemic sialagogue medication (pilocarpine).

Among the trials that randomized subjects to comparator or placebo versus intervention arm, 5 evaluated systemic sialagogues,[16,24,31,45,47] 3 evaluated local interventions (electric stimulation or moisture/lubricant reservoir),[14,17,39] and 10

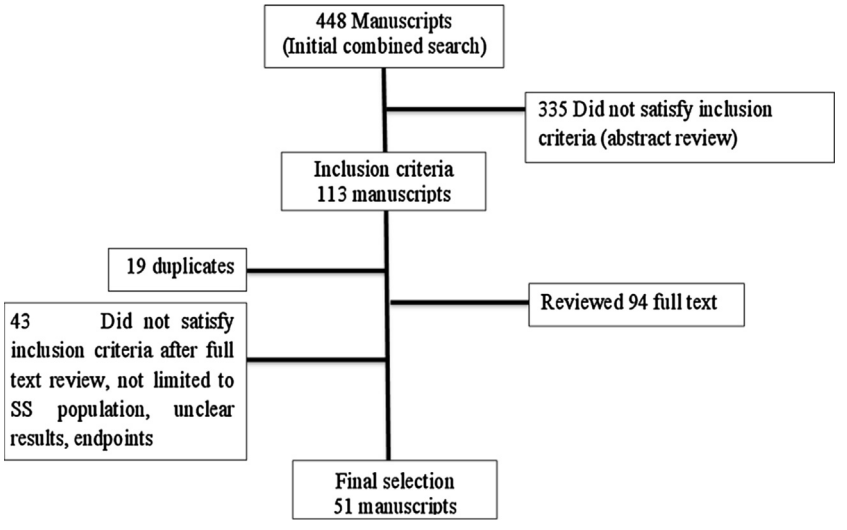

Fig. 1. Search flow diagram.