

Gargling: Its Efficacy for Laryngeal, Inflammatory, or Edematous Changes

Robert J. Feder, M.D.

Abstract

Universal employment of gargling as a therapeutic adjunct has not been challenged. No study correlates beneficial response and anatomic location. Various studies report on gargles containing a variety of specific medications for the topical treatment of peritonsillar abscess, chronic tonsillitis, etc. Many physicians treating all varieties of upper respiratory infections with a chief complaint of sore throat and/or laryngitis prescribe gargles. This study radiographically localizes radiopaque material during gargling to ascertain more accurately the effective anatomic area bathed by a gargled solution and describes some important side effects. Results reveal that gargling is not efficacious below the level of the posterior tonsillar pillars. The gargled solution does not bathe the vocal cords, thereby offering no beneficial effect and may in fact be injurious.

Nasal irrigations, mustard plasters, hot tea and honey, grogs, and a myriad of other household remedies have been looked upon by laymen as a panacea. Often practiced, taught, and passed on from one generation to another, the act of gargling as a therapeutic entity has no documented origin in medical literature. Numerous articles about gargles have appeared in the literature but are usually related to the application of specific medications by the topical route.¹ The greater majority of physicians who treat patients for upper respiratory infections with pharyngitis, laryngitis, or tracheitis will for the most part prescribe gargles using water as a base and add anything from ordinary table salt to baking soda, aspirin, antibiotics, etc. Even otolaryngologists who treat professional voice users may prescribe gargles containing oils which, if aspirated, could produce lipoid pneumonia. The scientific rationale for the use of gargles is not well documented, nor has its efficacy ever been firmly established. In medical texts one finds the teaching of gargling techniques¹ and the advocacy of their use by the average family practitioner,² internist,² and even otolaryngologist.³

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The recommendations for the use of gargles are not confined to the mouth and tonsil area, but extend to infections of the oropharynx, hypopharynx, and larynx.^{2,3} Laryngitis, whether of inflammatory or traumatic origin, has had its gargling advocates for centuries. The use of gargles seems to be rather universal and is not limited to any particular country or region. What is the gargle meant to achieve? Those lay and medical persons who advocate gargling think of the soothing quality of the liquid to the inflamed or irritated area much as one might consider a hot compress or poultice. Direct contact or application is thus the key to its alleged therapeutic action.

Materials and Methods

Fifteen volunteers selected at random were utilized in this study. They ranged in age from 22 to 47 years of age (average 33.4 years); there were four females and eleven males. The volunteers were radiology technicians or radiology residents at the Cedars-Sinai Medical Center. All were in good health without previous history of oral, pharyngeal, or hypopharyngeal pathology. None had had a previous history of neurologic disease or swallowing difficulty. On physical examination all revealed normal pharynx, oropharynx, hypopharynx, and larynx, and a normal gag reflex. All had previous experience in gargling. Each volunteer was placed in the upright lateral position and given 3–4 oz of Gastrografin, whose viscosity is somewhat heavier than water. They placed the solution into their mouths with their heads hyperextended to 45° or more. At the appropriate moment they were asked to gargle as deeply as possible without swallowing the solution. Approximately 5–10 seconds after initiation of gargling, the x-ray was taken. The technique was that normally used for lateral projection of soft tissues of the neck to include the oral cavity and laryngeal structures. All of the films were in-

Dr. Feder is Clinical Assistant Professor of Otolaryngology and Head and Neck Surgery at UCLA and former Chief of the Division of Otolaryngology, Cedars-Sinai Medical Center, Los Angeles, California. Address correspondence to: Robert J. Feder, M.D., Cedars-Sinai Medical Center, 8635 West Third Street #465W, Los Angeles, CA 90048.



FIGURE 1. Gastrografin reaches the posterior pillars only.

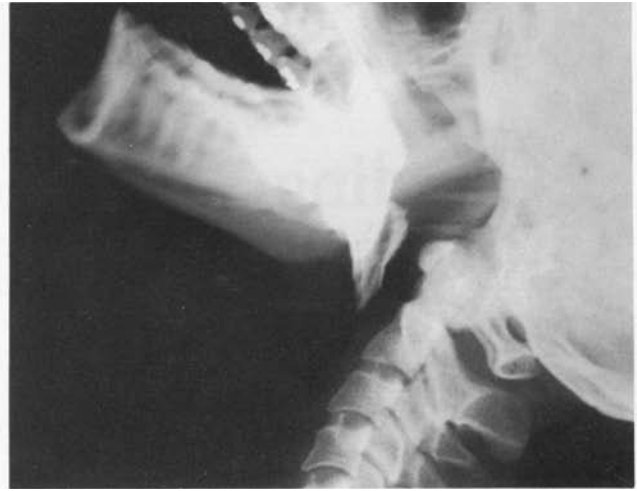


FIGURE 2. Gastrografin reaches the posterior tonsillar pillars only.

independently read by the author and the head and neck radiologist at Cedars-Sinai Medical Center.

Results

In each and every case one is struck by the radiologic evidence that the Gastrografin barely reaches into the oropharynx. The tongue becomes arched, pressing against the soft palate to protect the passage of fluid from falling deeply into the hypopharynx, protection against the reflexive initiation of the swallowing act. In protecting the airway, the lingual dorsum prevents the passage of fluid beyond the posterior tonsillar pillars. The tonsillar fossae appear to be partially bathed in Gastrografin during gargling (Figs. 1 and 2). Some radiopaque fluid is occasionally noted in the upper vallecula. The gargled solution never reaches the larynx and in particular does not bathe the vocal cords.

I am not proscribing the use of gargles. On the other hand, it should be pointed out that gargling appears to be traumatic and irritating to the vocal mechanism, causing a firm and harsh arytenoid and cordal attack, especially in patients with laryngitis. Gargling is particularly harmful to the professional voice user, i.e., singer, actor, lecturer, lawyer, preacher, teacher, etc. The mechanism of gargling appears to be similar to that of clearing one's throat and should be avoided by patients who have any type of laryngitis and by professional voice users. The exception is those patients, who because of custom, enjoy the feeling

of gargling. However, these individuals are cautioned to alter the mechanics of a gargle so as to achieve an "aphonic gargle" (without sound), allowing for the turbulence of fluid in the oral cavity to continue by high air pressures and air flow without the associated destructive irritation of accompanying sound. In no case is the gargled fluid able to bathe irritated, edematous, or inflamed vocal cords. The fluid never reaches the level of the vocal cords.

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Mechanically the gargling act is neither effective nor beneficial in laryngeal disease. The cordal effects are either passive or negative, with the vocal cords appearing to behave as a primary sound and air generator.

References

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