

原文題目(出處)：	Bilateral giant submandibular sialoliths and the role for salivary endoscopy. Am J Otolaryngol 2011;32:85-7.
原文作者姓名：	Carlos M. Rivera-Serrano, Barry M. Schaitkin
通訊作者學校：	Department of Otolaryngology, University of Pittsburgh Medical Center, Pittsburgh, PA, USA
報告者姓名(組別)：	張儒豐 Intern A 組
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內文：

Abstract

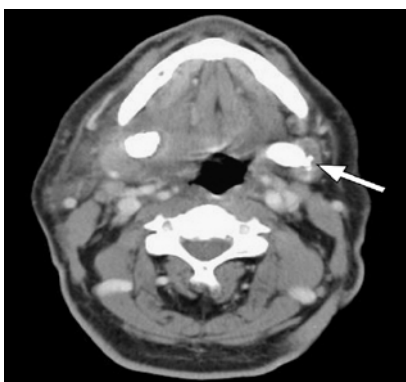
- Salivary stones larger than 15 mm are classified as giant sialoliths.
- Traditionally, when they cannot be retrieved by marsupialization, removal of the salivary gland has been advocated.
- Sialendoscopy and the recent development of combined endoscopic and external approaches for extraction of large stones with preservation of the major salivary glands are promising.

Introduction

- Sialolithiasis is the most common disease of the salivary glands, with an incidence of approximately 1.2% in the adult population .
- The average stone size is 3.2 mm for the parotid gland
- The average stone size is 4.9 mm for the submandibular gland.
- Sialoliths that exceed 15 mm in any one dimension or 1 g in weight have been classified as giant.
- In the normal gland, the diameter of the Stensen and Wharton ducts is approximately 4 and 3 mm, respectively .

Case report

- A 69-year-old man presented to our office complaining of chronic unremitting purulent discharge from bilateral submandibular ducts despite appropriate medical therapy.
- A computed tomographic scan revealed large bilateral radiopaque masses at the hilum of each submandibular gland, consistent with salivary stones
- The masses were palpable intraorally.



- A staged transoral sialolithotomy approach was planned and performed bilaterally.
- After the stones were removed, a salivary endoscope was used to explore the main duct, the stone cavity, and the distal ductal system.
- Exploration was made through the main duct via a transpapillary approach and also through the intraoral sialolithotomy opening. Small pieces of the larger stones and/or smaller stones were found lodged in the intraglandular ducts immediately distal to the cavity, which were removed under direct visualization. Once the calculi were removed, the salivary duct and soft tissues were closed in layers at the end of each procedure
- The patient tolerated both outpatient operations without complications and is currently asymptomatic 1 year after his last intervention.
- The right and left stone measured $2 \times 1.5 \times 1.5$ and $2.3 \times 1.6 \times 1.3$ mm, respectively

Discussion

- The etiology of salivary calculi still remains poorly understood.
- They are composed of organic and inorganic substances, such as microcrystalline apatite or whitlockite; and having multiple in a single glandular system is not uncommon .
- Giant sialoliths likely share the same pathogenesis as its smaller counterparts and are uncommon in the practice of otolaryngology.
- It is probable that the calculi in this patient had grown for many years, as it is believed that salivary stones grow at a rate of 1 to 1.5 mm per year
- more than 80% of salivary stones are located in the submandibular gland or its duct, 6% to 15% in the parotid, and approximately 2% in the sublingual and minor salivary glands.
- some authors have more recently reported that up to 40% of salivary calculi referred for treatment to a subspecialty center occurred in the parotid gland
- The management of large salivary gland calculi has always been a therapeutic challenge. Traditionally, when they cannot be retrieved by marsupialization, removal of the gland has been advocated .
- Sialendoscopy and the recent development of combined endoscopic and external approaches for extraction of large stones with preservation of the major salivary glands are promising.

Sialendoscopy

- Sialendoscopy allows the endoscopic intraluminal visualization of major salivary glands, and offers an opportunity to diagnose and treat inflammatory and obstructive pathology related to the ductal system.
- Under direct visualization, small stones can be retrieved endoscopically using wire baskets; and ductal stenosis can be dilated with balloons. In a large patient series, this technique has been validated for its utility and safety for diagnosis and treatment of salivary gland ductal pathology
- It has been demonstrated that successful results of interventional sialendoscopy are related to the size of the stones and ducts in both submandibular and parotid glands.
- Size is probably the most determinant factor in predicting success.
- According to Marchal , 93% of calculi in the parotid can be removed with wire baskets if smaller than 3 mm; however, the success rate for extraction decreases to 35% for larger stones.
- Fragmentation with laser or other methods and subsequent basket extraction are recommended for calculi up to 8 mm; but for giant stones, a combined approach has been advocated .
- A combined approach consists of the combination of classic noninvasive sialendoscopy plus open sialolithotomy. The patient presented in this case underwent bilateral combined approaches and did not require removal of the submandibular glands.
- The salivary endoscope has been a major advancement in our approach to sialoliths. In a review finished in 2007, our overall success rate for endoscopic stone removal was 74% .
- One of the advantages of the endoscope is the easier localization of salivary stones.
- In this case, the salivary endoscope was not used to locate the stones because the sialoliths were palpable and too large to be delivered endoscopically.
- One of the stones found in this patient had projections into the ductal system (not described before for giant sialoliths), which could have been potentially

fragmented during extraction and left inside the ducts.

- In this patient, the salivary endoscope permitted the exploration of the ducts and the stone cavity both proximally and distally, which guided a more precise retrieval of fragments and/or additional smaller stones, which otherwise would not have been easily identified.

題號	題目
1	最容易發生唾液腺結石的唾液腺是? (A) Submandibular gland (B) Parotid gland (C) Sublingual gland (D) Minor salivary gland
答案 (A)	出處： oral & maxillofacial pathology 2 nd p393~p395
題號	題目
2	位於 Submandibular gland 的唾液腺結石最適合的 X ray 照影方式 (A) Panorex film (B) Periapical film (C) Occlusal film (D) Bite wing film
答案 (C)	出處： oral & maxillofacial pathology 2 nd p393~p395