

Case Report

Large sialolith in the submandibular gland of a child

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Abstract Sialolithiasis is a disorder encountered by oral surgeons that is rarely seen in children, although it is rather common in adults. Most sialolith found in children are smaller than 5 mm in diameter, and the majority of reported cases have been treated by surgically. We report a 9-year-old boy with a sialolith that measured 12×3.5×3 mm, which had developed in Wharton's duct and was then spontaneously passed.

Key words

Child,
Sialolithiasis,
Submandibular gland

Introduction

A sialolith is a calcareous concretion that may occur in the ducts of the major or minor salivary glands, or within the glands themselves. The submandibular gland is most commonly affected, in most cases, the calculus is found close to the orifice or in the anterior two-thirds of Wharton's duct. Formation of a sialolith is considered to be the result of calcium salt around a central nidus, which may consist of desquamated epithelial cells, bacterial or micro-organismal decomposition products, or foreign bodies. The high incidence of submandibular calculi in this gland has been explained by the high concentration of calcium salts, pH, and mucin content located there¹⁾. Although sialolithiasis is not uncommon in adults, only about, 3% of cases have been reported in children. This low frequency of sialolithiasis in young patients is due to the long period required for sialolith formation, faster salivary flow rate, lower concentrations of calcium and phosphate in saliva, and smaller orifice size for foreign body entrance. In adults, average calculus size is 6.3 mm (range, 2–30 mm), but most are less

than 5 mm in children^{2,3)}.

Children who present with sialolithiasis are generally healthy and without systemic illness, except for symptoms of acute inflammation. Most of their chief complaints regard intermittent and unilateral pain and swelling in the submandibular region, usually associated with eating.

We describe here a case of submandibular gland sialolithiasis in a 9-year-old child, which resulted in the formation of a calculus greater than 10 mm in diameter that was located in Wharton's duct on the right side.

Case report

A 9-year-old boy was referred to our hospital with the chief complaints of tenderness and swelling of the floor of the mouth with spontaneous pain, which had occurred over a period of 3 days. The patient was first seen by a general practitioner, who made a diagnosis of acute sialodochitis, and prescribed a 2-day regimen of an antibiotic (cefotiam dihydrochloride). The past medical history of the patient was unremarkable. Physical examination revealed no acute distress, and body temperature, pulse, and blood pressure findings were within normal ranges. Clinical examination revealed swelling in

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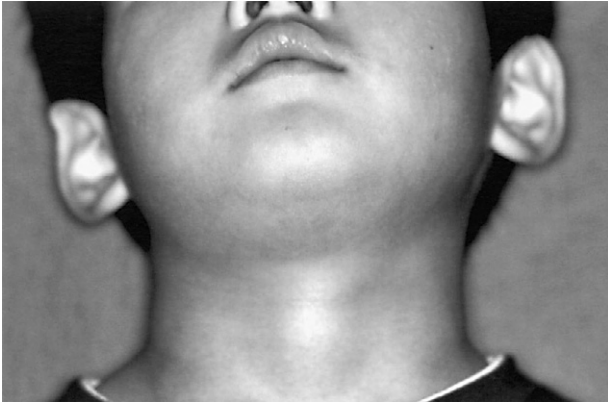


Fig. 1 Diffuse swelling in the area of the right submandibular gland

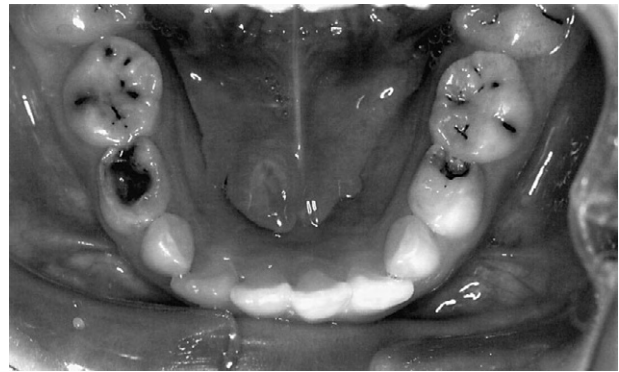


Fig. 2 Image of mouth floor showing edema, swelling, pus discharge, and erythema of Wharton's duct orifice



Fig. 3 Occlusal view showing the sialolith in the anterior portion of Wharton's duct on the right side

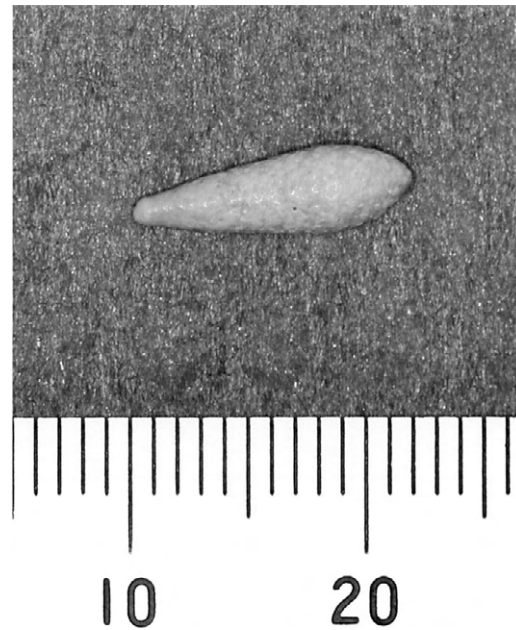


Fig. 4 The calculus following passage from Wharton's duct

the right submandibular region, and diffuse swelling of the right submandibular gland was palpable with associated tenderness (Fig. 1). In addition, the right submandibular nodes were palpable and about the size of the little finger, and showed mobility and significant pain. Trismus was not present. Intraoral examination revealed that the left-side Wharton's duct was normal, with clear salivary flow produced by gentle manipulation of the gland. In contrast, Wharton's duct on the right side exhibited a prominent edema, with swelling, discharge of pus,

and erythema of the orifice (Fig. 2). Radiographic examination revealed a radiopaque mass in the anterior one-third of Wharton's duct, close to the orifice (Fig. 3). A diagnosis of submandibular acute sialodochitis caused by a sialolith was made. One day after beginning the prescribed antibiotics, a sialolith spontaneously migrated from the gland (Fig. 4). The calculus was an ash gray-colored oval, and measured approximately 12 mm long and 3.5 mm in diameter.

Physicochemical chemical analysis revealed the

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