Case Report

Sialolithiasis in a submandibular duct: A case report

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ABSTRACT

Sialolithiasis is the non-neoplastic calcified concretions of phosphate and sulfate salts in the ductal supply system of salivary glands. Bacterial exudate, viscosity of saliva, and pH of salivary secretion play a significant role in the development of these pathological concretions both in major and minor salivary glands. Sialolithiasis is also known as mealtime syndrome. Incidence rate of sialoliths is the most common in adults between the ages of 30 and 50 years in adult populations. Incidences are 12 of 1000 adult population. In this article we have reported a case of right mandibular gland sialolithiasis in a 38-year-female patient with acute clinical presentation of swelling and pain in lower right of face. Clinical and sonography findings are done for determination of the size of stone. A literature review of this unusual condition and various management options in treating submandibular sialolithiasis has been discussed.

Keywords: Sialolith, sialolithiasis, submandibular

INTRODUCTION

Sialolithiasis (calculi or stones in salivary gland) is the non-neoplastic calcified concretions of phosphate and sulfate salts in the ductal supply system of salivary glands.[1,2] Bacterial exudate, viscosity of saliva, and pH of salivary secretion play a significant role in the development of these pathological concretions both in major and minor salivary glands.[3,4] Sialolithiasis is also known as mealtime syndrome.[5] The typical indications are pain and swelling of the influenced salivary organ; when salivary flow is compromised, both symptoms are increased such as with sight, thought, smell, or taste of food or with appetite or chewing of food.[6] Still, exact cause is idiopathic (unknown). Incidence rate of sialoliths is the most common in adults between the ages of 30 and 50 years in adult populations.[7] Incidences are 12 of 1000 adult population. The males are affected twice compared to females with a ratio of 2:1. It is uncommon in pediatric population.[8,9]

Anatomically, sialoliths (stones of salivary gland) are the most common in submandibular gland (also known as Wharton's duct) contributing 80%–90% of cases diagnosed. Sialoliths >15 mm in any one dimension are considered as the larger one which is rarely found.[10,11] Sialoliths with size >30 mm are rare.[12]

The condition is generally overseen by evacuating the stone, and also, there are some different procedures available to treat sialolithiasis. Once in a while, evacuation of the submandibular gland may become vital in cases of repetitive stone development.[13]

Diagnosis of sialolithiasis is easy due to typical and obvious clinical features, and to establish right treatment, imaging studies are mandatory.[10,11]

We report a case of right mandibular gland sialolithiasis with infection in 38-year-old female patient with acute clinical presentation.

CASE REPORT

A 38-year-old female reported to a Community ENT clinic presenting a chief complaint of swelling and pain in the lower right of the face for the past 6 months. She had been experiencing these gradually worsening manifestations for 24–35 h before this. Pain was sudden in onset. It was moderate to severe in nature and continuous. Symptoms aggravate with intake of food and relieved on medication.

There was a history of swelling 8 months back. There was palpable swelling of small in size below the right of the chin and there was a

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history of enlargement of the size of swelling, and from the past few months, the size became persistent.

The patient gave a history of missed abortions in the past 1 year and lumbago but no history of bleed or infarct in temporoparietal lobe of the brain. She gave a positive history of migraine but not taking any medication for migraine. Patient has no history of taking anticoagulant drugs like aspirin. Calcium and iron supplements are prescribed to patient by gynecologist. Her family and allergy history was non-contributory. She was non-smoker and vegetarian by diet.

On extraoral examination, facial asymmetry of the right side of the face was present. There is swelling on the right submandibular region of mouth which seems to be 2 cm * 2.5 cm in size. Swelling was hard in consistency and tender on palpation. On intraoral examination, there was no obvious finding.

On basis of physical examination provisional diagnosis is made that is submandibular sialolithiasis. To rule out tubercular nodule, ultrasonography of the neck was advised, which showed significant findings based on the size of 1.5 mm stone. We obtained her consent for the case study.

DISCUSSION

The exact cause of the development of the non-neoplastic calcified concretions remains idiopathic.[14,15] The development of sialolith is a multifactorial event, in which bacterial exudate, viscosity of saliva, and pH of salivary secretion play a significant role in the development of these pathological concretions both in major and minor salivary glands.[16] The composition may include inorganic (calcium salts) and organic material such as glycoproteins and lipids.

In our case, the pathogenesis of this stone is difficult to ascertain. In this case, stone may be formed due to calcium supplements taken by the patient which are prescribed by her gynecologist. Because calcium plays a major role in the formation of sialolithiasis.[17-19]

Management of salivary gland stones has been widely discussed in recent literature; conservative treatment options are antibiotics and anti-inflammatory agents for spontaneous stone passage.[20,21] Stone excision can be done using lithotripsy, interventional sialendoscopy, and surgical cut for an obstructive case of sialolithiasis. Gland excision is opted for severely damaged salivary gland most suitable for an obstructive case of sialolithiasis. In our case, the patient was treated conservatively with antibiotics and anti-inflammatory agents with medicine and dietary restriction of iron and calcium supplements.[18]

SUMMARY

This case summarizes that patient suffer from sialolithiasis with acute pain and swelling are treated with conservative treatment that is antibiotics and anti-inflammatory agents and are advised to meet physician at least after 6 months in order to find variation in size of stone and provide treatment accordingly.

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