



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 8, Issue, 6, pp. 17368-17370, June, 2017

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

CASE REPORT ON SIALOLITHIASIS (SUB MANDIBULAR DUCT)

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DOI: <http://dx.doi.org/10.24327/ijrsr.2017.0806.0341>

ARTICLE INFO

Article History:

Received 05th March, 2017
Received in revised form 08th
April, 2017
Accepted 10th May, 2017
Published online 28st June, 2017

Key Words:

Submandibular salivary gland,
Sialolithiasis, Sialolith.

ABSTRACT

Salivary gland stone is the most common disease of salivary glands. Submandibular gland or its duct is a major site of sialolithiasis and a common cause of acute and chronic infections. This case report presents a patient with submandibular gland sialolith, subsequent patient management, diagnosis and various treatment modalities available for the management of salivary gland calculi depending on their site and size.

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INTRODUCTION

The term is derived from the Greek words *sialon* (saliva) and *lithos* (stone)

Case Report

A 47 year female got admitted in IPD of SMVDNSH with complaints of recurrent episodes of difficulty in swallowing food, marked swelling of left face extending from face to neck and pain in the submandibular region. She has been a known case of Sialolithiasis from 2 years. On physical and diagnostic (radiological) examination reveals enlarged left submandibular gland, stone along submandibular duct in floor of mouth at proximal part of duct, and Sialadenitis associated with pain, tenderness, redness, and gradual, localized swelling of the affected area. She was diagnosed with left submandibular duct sialolithiasis with associated sialectasis and sialadenitis. Patient got treated with surgical removal of stone under LA & 3-4 stones removed from the proximal duct. Patient general condition is improved after removal of stone.

Definition

Sialolithiasis (also termed salivary calculi, or salivary stones), is a condition where a calcified mass or sialolith forms within a salivary gland, usually in the duct of the submandibular gland (also termed "Wharton's duct").

Associated Conditions

Sialectasis: (sialectasis) is the cystic dilatation of the ducts within salivary glands. It is most commonly seen in the parotid gland and is associated with ascending infections and gland destruction.

Sialadenitis: (sialoadenitis) is inflammation of a salivary gland. It may be subdivided temporally into acute, chronic and recurrent forms.

Complications

If not treated, salivary gland infections can cause severe pain, high fevers, abscess, cysts and tumours.

Prognosis

Sialoliths with long duration of pain and swelling can be easily diagnosed by careful history and clinical examination. Sialoliths which occurred near to the orifice of the duct are better to be done by manual manipulation to avoid the damage of the gland.

S. No	Book picture	Patient picture
1.	<p>Incidence Common in males, male to female ratio of 2:1 and the incidence is high in the third to sixth decade of life</p>	<ul style="list-style-type: none"> 47 year female
2.	<p>Etiology Certain substances in your saliva, such as calcium phosphate and calcium carbonate, can crystalize and form stones. They can range in size from a few millimeters to more than two centimeters. When these stones block your salivary ducts, saliva builds up in the glands, which makes them swell.</p> <p>Risk Factors A few factors have been associated with a higher risk of having these stones. These include:</p> <ul style="list-style-type: none"> taking medications, such as blood pressure drugs and antihistamines, which reduce the amount of saliva produced by your glands being dehydrated, as this makes your saliva more concentrated not eating enough food, which causes a decrease in saliva production 	<ul style="list-style-type: none"> Cause Unknown
3.	<p>Pathogenesis It is generally believed that initially a small and soft nidus forms within the salivary glands due to some known reasons. The nidus is made up of mucin, protiene acteria and desquamated epithelial cells. Once a small nidus forms, it allows concentric lamellar crystallizations to occur due to the precipitation of calcium salts. The sialolith increases in size with time as layer after layer of salts become deposited, just like growth rings in a tree. Small sialoliths can be expelled in the mouth with the salivary secretions but bigger sialoliths continue to expand until a duct is completely closed. It is important to note that the formation of sialolith is more common in relation to the submandibular gland and it's duct.</p> <p>Clinical Manifestation Clinical features Age- Incidence peaks between the age of 30 and 60 years , Sites- 70% in submandibular salivary gland and its ducts.</p> <p>Clinical Presentation</p> <ul style="list-style-type: none"> Pain, which is intermittent, and may suddenly get worse before mealtimes, and then slowly get better (partial obstruction) Swelling of the gland, also usually intermittent, often suddenly appearing or increasing before mealtimes, and then slowly going down (partial obstruction) Tenderness of the involved gland. Palpable hard lump, if the stone is located near the end of the duct. If the stone is near the submandibular duct orifice, the lump may be felt under the tongue. Lack of saliva coming from the duct (total obstruction). Erythema (redness) of the floor of the mouth (infection). Pus discharging from the duct (infection). Cervical lymphadenitis (infection). 	<p>She is on antihypertensive medication (Amlong 5 mg)</p> <p>Left side submandibular region was affected from 2 years.</p>
4.	<p>Diagnostic Evaluation</p> <ul style="list-style-type: none"> History and physical examination Radiology of sialolithiasis:- When a sialolith is located in submandibular gland area then a lateral jaw radiograph will be helpful in locating the exact position of the stone. Ultrasonograh and CT scan <p>Management Nad Treatment Goal: To restore function of the affected salivary gland. Some current treatment options are: Non-invasive For small stones, hydration, moist heat therapy, NSAIDs occasionally, and having the patient take any food or beverage that is bitter and/or sour. Sucking on citrus fruits, such as a lemon or orange, may increase salivation and promote spontaneous expulsion of the stone.</p> <ol style="list-style-type: none"> Some stones may be massaged out by a specialist. Shock wave therapy (Extracorporeal shock wave lithotripsy). <p>Minimally invasive Sialendoscopy Surgical</p> <ol style="list-style-type: none"> An ENT or oral/maxillofacial surgeon may cannulate the duct to remove the stone (sialectomy). A surgeon may make a small incision near the stone to remove it. In some cases when stones continually reoccur the offending salivary duct is removed. 	<ul style="list-style-type: none"> 47 years female Left side submandibular region was affected from 2 years. Reccrent episodes of swelling and pain Difficulty in swallowing Palpable hard lump with pain, tenderness, redness, and gradual, localized swelling of the affected area. known case of Sialolithiasis from 2 years & marked swelling in the area. Presence of Stone shown by radiograph and CT scan report with size: 10mmx 6mm.
5.	<p>Management Nad Treatment Goal: To restore function of the affected salivary gland. Some current treatment options are: Non-invasive For small stones, hydration, moist heat therapy, NSAIDs occasionally, and having the patient take any food or beverage that is bitter and/or sour. Sucking on citrus fruits, such as a lemon or orange, may increase salivation and promote spontaneous expulsion of the stone.</p> <ol style="list-style-type: none"> Some stones may be massaged out by a specialist. Shock wave therapy (Extracorporeal shock wave lithotripsy). <p>Minimally invasive Sialendoscopy Surgical</p> <ol style="list-style-type: none"> An ENT or oral/maxillofacial surgeon may cannulate the duct to remove the stone (sialectomy). A surgeon may make a small incision near the stone to remove it. In some cases when stones continually reoccur the offending salivary duct is removed. 	<ul style="list-style-type: none"> 3-4 Stones removed from proximal duct done under general anaesthesia. Stone was yellowish in color and size was 10mmx6mm. Antibiotic injection(inj. Supracef 1.5mg) was also prescribed to prevent from infection.
6.	<p>Supporting treatment: -To prevent infection while the stone is lodged in the duct. antibiotics are sometimes used.</p>	

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How to cite this article:

Rajni Thapa.2017, Case Report on Sialolithiasis (Sub Mandibular Duct). *Int J Recent Sci Res*. 8(6), pp. 17368-17370.
DOI: <http://dx.doi.org/10.24327/ijrsr.2017.0806.0341>
