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Submandibular Stones in Sudanese Patients

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Abstract

This is retrospective study of 10 years experience of management of Sudanese patients with Submandibular ductal and glandular stones seen in Elmak Nimer university hospital and private clinic in Shendi north of Sudan between 2006—2016 .

Objectives

The aim of the study to study the common presenting symptoms and signs ,management and the possible risk factors which increase the incidence of the Submandibular gland stones in the area of the study.

Design

This retrospective study showed the experience of the authors in the management of Submandibular stones between 2006—2016.

Conclusion

Submandibular stones are one of the common causes of sore throat and pain with chewing in Sudanese patients.

Males are affected more than females.

Hot weather and snuff use may play role in increased formation stones in the area of study.

Keywords: Submandibular gland, sore throat, swelling. Stone formation. Mursuplisation, submandibulectomy.

Introduction

Salivary gland diseases was first described in ancient times by Hippocrates, 460-370 Bc. There are three pairs of salivary glands and many minor ones .the classical investigations include plain radiography, ultrasonography, CT scan and

sialography. Most radiologist consider computed tomography to be more reliable for demonstration of Submandibular ductal or glandular stones ^[2, 3, 5] Sialoadenitis of Submandibular gland is diagnosed depending on the history of recurrent pain full swelling in the Submandibular gland area which exacerbated by chewing^[1, 3, 6,7,8].

Calculus obstructions commonly result in persistent swelling of the gland with intermittent pain full episodes .According to post autopsy studies; sialolithiasis affect 1% of the salivary glands^[4,9WilsonKF].

According to most published data Submandibular gland stones account 80-90 % of all cases while parotid account 6-10% and rare in minor salivary glands^[5].

Many factors may play role in the formations of stones this includes decrease salivary flow. Dehydration, infection, auto immune diseases and chronic irritation.

The salivary gland stones composed of organic and inorganic substances in varying ratio. The organic substances include glycoproteins, mucopolysaccharides and cellular debris .the inorganic substances are mainly calcium carbonate and calcium phosphate^[6].

Submandibular stones can be located distally, proximally or intraglandular and it is of varying size, and can be single or multiple^[7].

Diagnoses depend on typical history of recurrent pain full swelling or persistent neck swelling in the submandibular area.

Ductal stone in submandibular gland are often visible or can be bi manually palpable while intraglandular are difficult to feel but can be

visible in plain X rays or C.T scan and occlusal film may play arole^[8].

Ductal stones can be removed through the mouth by local anesthesia with adrenaline. Patient with big stones, recurrent sialoadenitis and persistent swelling submandibulectomythrough external incision should be done^[9]. Sialoendoscopy is a new procedure, aiming to visualize the lumen of salivary duct, their pathology and may play a good role in the management of ductal stones^[10].

Patients and Methods

These study included all cases of submandibular gland and ductal stones seen in ENT referred of ELMAC NIMER university hospital and private clinic of one of the authors in the period between 2006-2016 .All cases were confirmed clinically and radio logically to had either glandular or ductal stones.

Results

The total number of patients involved in this study was 87 patients they confirmed clinically and radio logically to had either ductal, glandular or both submandibular stones.

Two third of them were males table1, their age range from 10-65 years old most of them in the third and fourth decades table [2]. Recurrent sore throats, pain on chewing and persistent submandibular swelling were the main presenting symptoms table[3].

Table [1] Sex distributions of patients in the study group.

Sex of Pts	No.of PTS	%
Male	62	71.2%
Female	25	29.8%
Total	87	100%

Table [2] Presenting symptoms of pts. With submandibular ductal and gland stones.

Symptoms	No.of PTS	%
Recurrent sore thorat	80	91.2%
Pain with chewing	32	36.80%
Submandibular swelling	25	28.70%
Abscess formation	8	9.20%
others	36	41.40%
Total		100%

Others include irritation in the floor of the mouth, fever, halitosis & pooling of saliva.

Table [3] Age distribution of pts. In the study.

Age group	No. of PTS	%
Less than 10Ys	0.00	0%
10-20	5.0	5.70%
20-30	32.0	36.80%
30-40	27.0	31.00%
40-50	12.0	13.80%
More than 50 ys	13.0	14.90%
Total	87.0	100%

Some patients showed silent symptoms and discovered during routine examinations of the throat. Clinical examination play the major role in diagnosis and bimanual examination was significant in most cases.

Radiological assessment in most cases confirmed radiopaque stones which can be single and multiple in some cases in the study. Fig [1&2]



Fig (1) X rays showed multiple stones Fig (2) X rays showed glandular stone

Some patients in the study is not believe about presence of stones in this area.

All patients who had ductal stones removed in outpatients or in private clinic with mursuplisation of Wharton duct under local anesthesia



Figure (3): Ductal stone removed under local anesthesia.

Fourteen patients with big stones .recurrent stones formation or persistent swelling sub-

mandibulectomy under general anesthesia was conduct:



Figure (4 & 5): patient with glandular stone which showed huge stone after surgery



Figure (5): patients with glandular stones and showed multiple stones after surgery

Most of the patients with silent symptoms or discovered on routine throat examinations refused surgery.

No patient in the study showed bilateral stone formations .Recurrent stone formation was noticed in five cases after removal of ductal stones.

The study of possible risk factors revealed that 80% of the male patients were snuff user which increased incidence of bad oral hygiene also we noticed the increased exacerbation of the symptoms in the summer in which the temperature reach up 45 c in the area of the study.

Discussion

This is retrospective study done in Shendi northof Sudan .To study the experience of the authors to manage patients with submandibular ductal and glandular stones between 2006—2016.

No previous study in Sudanese patients especially in the study area.

The major presenting were recurrent sore throat ,pain chewing with or without persistent swelling and this goes with most published literature where recurrent sialoadenitisas the main presenting feature of submandibular gland and ductal stone.^[1]

In reviewing of our data we noticed that submandibular salivary diseases are common specially sialoadenitis and sialolithiasiswhich increased by bad oral hygiene and hotweather in the study area in which environmental temperature reach up to 45 c in summer.

Two third of the patients are males in the 3rd and 4th decades and most of them are snuff users and it increase therisk of sialoadenitis which increased stone formation.

Conclusion

Submandibular stones are one of the common causes of sore throat and pain with chewing in Sudanese patients.

Males are affected more than females.

Hot weather and snuff use may play role in increased formation stones in the area of study.

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