

Stephanie Dirani
Pathology
Tuesday-10am

Sialolith

A Sialolith is a major salivary gland stone that often affects the intra- or extraglandular salivary duct system. It is often an apatite structure that forms when calcium phosphate and calcium carbonate condense. It contains amorphous nuclei which has an accumulation of laminal layers of organic and inorganic substances. “Sialoliths form as a result of mineralization of debris that has accumulated in the duct lumen... This debris may include mucous plugs, bacterial colonies, exfoliated ductal epithelial cells, foreign bodies, and so on.”

The etiology of Sialoliths is unknown. The clinical appearance of a sialolith is as follows: “it appeared to change from the distal to proximal area in the salivary duct with increasing age. The periphery of the stones was also found to be less frequently lamellated or mineralized... Pediatric patients are seldom affected by sialolithiasis. This may be because of higher salivary flow, which tends to displace calculi.” Sialoliths are more commonly occurring in the major salivary glands vs the minor salivary glands which are located all over the mouth including the lips, hard and soft palate, floor of the mouth, etc. “Sialolith formation in the minor salivary glands is considered to be rare, and clinical features are not always typical, so clinical misdiagnosis is possible.”

There are many factors that go into the formation of of sialoliths. Since it is salivary in origin, there are alterations in salivary flow. “Secretory disturbances, including viscous secretions, microlith formation, and ductal obstruction, may contribute to sialolith formation.” Often patients state that the mass is painless.

It doesn't seem to affect race but appears to be more common in males than women based on the study in the first article. Another article states, “Males are commonly affected as compared to females and in the age group between 30-60 years”. It is seldom seen in pediatric patients.

“From our histologic findings, sialoliths had a concentric, laminated structure of alternating layers of inorganic substances. The acini surrounding the homogeneous sialoliths in the intraglandular region contained few inflammatory cells, whereas those surrounding the heterogeneous sialoliths contained abundant inflammatory cells. In the duct we observed more multiple sialoliths. The ductal epithelium may constitute the nidus of stone formation.”

The most common treatment is a Sialoadenectomy. Basically the resection of the stone. With treatment there is the possibility of a plunging ranula as a post-op complication of an intraoral removal of a mandibular sialolith. There's also a slim chance that a second procedure

needs to be done to remove remaining stone fragments and salivary sand. After a procedure it'll take 24-48 hours for post-op symptoms to resolve itself. "patients remained asymptomatic in the follow-up; only 1/11 patients experienced a recurrence of sialadenitis after a short time, with pus secretion, which resolved with antibiotic treatment." Without treatment the prognosis doesn't seem too good considering that a duct with a sialolith is non functional. There's all this fluid with no where to go and can become painful if it isn't already.

"A differential diagnosis should be made in the radiopaque lesion, including sialoliths, calcified lymph nodes, phleboliths, tuberculosis of lymph nodes, other vascular calcifications, and so on... However, some poorly calcified sialoliths (radiolucent calculi) may not show up on radiographs."

All of this is relevant to hygienists because, although we don't treat the pts condition, we have to be able to identify that something is not right, feel something is abnormal when we do IO exams. Once we identify there is an issue, it is our responsibility to refer the pt to the appropriate specialist in order to officially diagnose and treat the problem.

Pathogenesis and Diverse Histologic Findings of Sialolithiasis in Minor Salivary Glands

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