Submandibular Sialolith: Two Case Reports

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Abstract

One of the most common disorders of the salivary glands is sialolith. Sialolith is the formation of calcific integuments within the parenchyma or ductal system of the major or minor salivary glands, but most commonly affects the submandibular salivary gland. Clinical symptoms include swelling and pain in the affected gland. Pain and swelling may recur and be most pronounced during meals. The aim of this case report is to review the clinical and radiological findings of two more sialolite cases, one of which is giant, to the literature. In this article, two cases of submandibular salivary gland sialolith with dimensions of 28x21.29x17.64 mm and 12.98x9.84x5.77 mm are presented. It is important that patients do not neglect when they have symptoms and come to regular follow-up appointments for control purposes.

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Keywords: Submandibular gland, sialolith, cone-beam computed tomography.

Introduction

Sialoliths are calcified structures found in the salivary glands and are the most common pathology of the salivary glands (1). Anamnesis, inspection, palpation and measurement of salivary flow are important in the diagnosis of sialoliths. Patients usually apply to the physician with complaints of recurrent pain during or after meals, pain radiating from the diaper area to the ear and neck, and swelling (2). Although the etiological causes of sialoliths are unknown, three prerequisites are thought to be etiological. Out of control of neurohumoral regulation causes weakening of salivary flow. Finding a nidus or matrix for sialolith. An inflammation in the salivary gland accelerates the formation of sialolith by affecting the metabolic mechanism (3). 80% of the sialoliths formed in the salivary glands were observed in the submandibular salivary gland, 6% in the parotid gland, 2% in the sublingual and other minor salivary glands (4). Direct

radiography, sialography, ultrasonography, scintigraphy, computed tomography (CT), magnetic resonance imaging techniques can be used in the diagnosis of salivary gland diseases (5). When the effectiveness of cone-beam computed tomography (CBCT) and ultrasound in the detection of sialoliths is compared, it has been observed that they contribute to the diagnosis at approximately the same rate (6). Clinical symptoms include swelling and pain in the affected gland. Pain and swelling may recur and be most pronounced during meals. The aim of this case report is to review the clinical and radiological findings of two more sialolite cases, one of which is giant, to the literature.

Case Reports

Case 1

A 65-year-old male patient was admitted to our hospital with the complaints of recurrent episodes of pain, difficulty in swallowing and swelling in the neck for the last 3 years. On bimanual palpation, the left submandibular gland was firm and tender, and a tender lymph node was palpated in the left submandibular region. On the panoramic radiograph, pear-shaped radiopacity with radiolucency areas exceeding the lower border of the mandible was detected at the apical level of tooth 36 (Figure 1). In the CBCT taken afterwards, a mostly radiopaque image with regular borders in the submandibular region, 28x21.29x17.64 mm in size, containing radiolucent areas compatible with sialolith was observed radiopacity (Figure 2). It was diagnosed as left submandibular sialolith on clinical basis and radiological findings. The patient was told that he needed to be surgically removed and he was directed to the relevant units. However, the patient did not accept surgical intervention.

Figure 1. Panoramic image of sialolith in the left submandibular region.

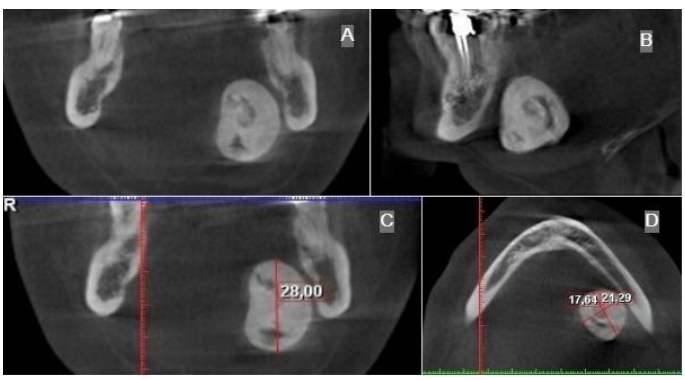

Figure 2. Coronal (A, C), sagittal (B) and axial (D) section tomographic images of left submandibular sialolith.

Case 2

In the anamnesis of the 30-year-old patient, who did not have any systemic disease and applied with the complaint of missing teeth and occasional mild pain on the right, it was learned that a feeling of dryness in the mouth sometimes occurred. A slight stiffness was felt in the submandibular region on bimanual palpation. In the panoramic radiograph taken for radiological examination, an oval-shaped opacity extending from the apical to the mesial of tooth 37 was observed (Figure 3). Cone-beam computed tomography, a three-dimensional imaging technique, was used to evaluate whether there was a tumoral formation in the bone tissue. On the tomographic image, radiopaque in the right submandibular region, with pronounced borders, 12.98x9.84x5.77 in size, consistent with sialolite, was observed radiopacity (Figure 4). The patient was informed that when he had very serious complaints, he had to be surgically removed.

Figure 3. Panoramic image of sialolith in the right submandibular region.

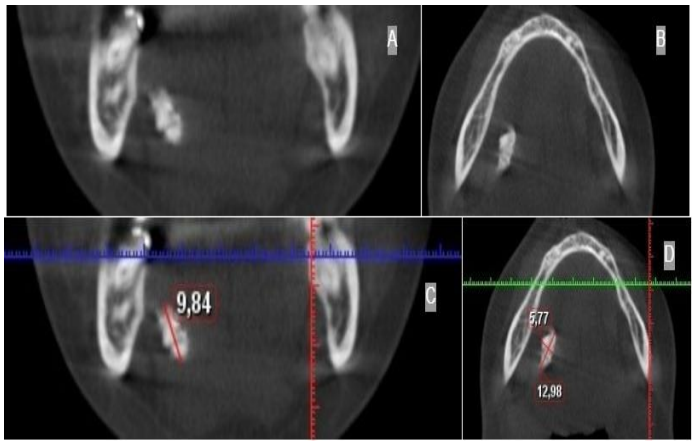

Figure 4. Coronal (A, C) and axial (B, D) section tomographic images of right submandibular sialolith.

Discussion

Sialoliths originate from the submandibular gland most frequently with a rate of 80%, followed by the parotid gland with 5-20% and the sublingual gland with 1-5% (7, 8). Both of the cases we presented were seen in the submandibular gland. Sialoliths develop more frequently over the age of 20 and in men (9). One of our cases was observed in a man and the other in a woman. In studies, it was found that 59% of the patients had pain and swelling, 29% had only swelling and 12% had only pain. Although there was pain and swelling in one of the cases in this case report, the other had mild pain and swelling was not present. Most sialoliths can be visualized by direct radiography. 80-94% of submandibular sialoliths and 60% of those developing in the parotid appear radiopaque. The reason for this situation is that sialolites contain calcium carbonate and calcium phosphate (10). Computed tomography is very useful when other techniques give ambiguous results (11). We used CBCT in the radiographic examination of our cases, and both were observed as radiopaque images. The localizations of sialoliths are classified according to the transverse relationship of the tooth in the region of the 1st molar tooth. Sialoliths located in front of the transverse line are included in this classification as anterior, and those located behind the transverse line are included as posterior in the classification. While anterior stones are generally localized in the duct, posterior sialoliths can be localized both in the duct and in the gland (12). When we look at the literature, our first case was one of the largest sialoliths. Both of our cases were found to be located posteriorly. Giant sialoliths are mostly located in the submandibular gland parenchyma. Small asymptomatic stones can be followed. Severe or intraparenchymal sialoliths can be treated by surgical removal of the stone or the entire gland.

Conclusion

As a result, sialolite can reach gigantic dimensions. It can be said that there is an increase in the findings in large sized sialoliths and it affects the comfort of the patient. Small sialoliths can be asymptomatic, so we recommend that patients visit their dentist regularly.

Conflict of Interest Statement: There is no conflict of interest.

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