

Etiology of a Rare Intraglandular Foreign Body in the Parotid Gland: Vegetable Nidus

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Abstract

Foreign bodies observed in the parotid gland generally originate from trauma. These foreign bodies are commonly solid structures such as metal, stone, and glass, but foreign body compatible with plant histomorphology is a rare condition. In this study, we present the diagnosis and treatment methods that we applied to this clinical entity, which is very rare in the literature. A 44-year-old female patient who applied to our clinic with a mass on her left cheek that developed in the past 3 months was evaluated. The patient underwent foreign body excision from the parotid gland. On the patient who had a stricture in the Stensen duct during intraoperative exploration, the duct was dilated, and the patient was followed up. Foreign body with vegetative morphology, which settles into the parotid gland by retrograde migration, is a very rare condition. The importance of being aware of possible complications, and a meticulous surgical approach should also be taken into consideration.

Keywords: Foreign body, parotid, plant, Stensen duct

INTRODUCTION

Parotid diseases are frequently encountered in clinical practice. ^[1] Etiological factors include reactive intraparenchymal parotid lymph nodes, intraductal polyps, granulation formations in immunological diseases such as Sjögren's syndrome, stones, fibromucinous plugs, ductal stenosis, foreign bodies, anatomical variations, or malformations of the canal system that cause stasis-related mechanical obstruction. ^[2]

Few cases have been reported in the literature regarding foreign bodies detected in the parotid gland, and most of them are bodies penetrating the gland through the skin. ^[3] A very small portion of foreign bodies progresses retrogradely from the Stensen duct to the canal system. Among these objects, particles such as nails, vegetative nidus, fish bones, and pieces of metal can be encountered. ^[4] Parotid sialadenitis due to penetration of plant materials is a very rare condition. In this study, a case of sialadenitis developed after retrograde migration of a foreign body compatible with the plant histomorphological structure in the parotid gland is presented.

CASE REPORT

A 44-year-old female patient who applied to our clinic with pain and swelling on her left cheek was evaluated. The patient's swelling on the left cheek appeared 3 months ago and gradually enlarged. There was no history and evidence of trauma. Furthermore, the patient had intraductal breast cancer. She underwent a mastectomy on the right breast, then received chemotherapy and radiotherapy. During breast cancer treatment, the patient began herbal treatments, especially consumed chia plants frequently in large quantities. The patient applied to the hospital due to increased swelling and pain in the left cheek, especially in the past 2 weeks.

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On physical examination, tenderness, pain, and a nodular mass in the left malar region were observed [Figure 1]. In the examination of the buccal area, erythema and minimal purulent discharge were detected in the region of the Stensen duct. Diagnostic ultrasonography (USG) examination of the patient showed a linear hyperechoic structure of approximately 2.5 cm in size, and a decrease in echogenicity around this structure was detected in the upper part of the left masseter muscle within the superficial lobe of the parotid gland [Figure 2]. Additional imaging methods such as computed tomography or magnetic resonance imaging were not needed because sufficient data were obtained with USG.

In this case, the formation mechanism of the foreign body reaction in the parotid gland is due to the small size of the seeds of the chia plant, and then, the chia plant seed would have migrated from the duct and settled in the parotid gland. Surgical excision of the mass in the parotid gland was performed under general anesthesia. The parenteral ampicillin-sulbactam (Combicid®, Bilim İlaç San. ve Tic. A. Ş. Tekirdağ, Turkey) 1 g vial 2 × 1 intravenous treatment was started for the profilaxis. In surgery,

an incision over the mass was made on the malar skin to minimize the possible risk of facial nerve damage, as the mass was close to the skin surface and did not require parotidectomy. The foreign body and all surrounding inflamed tissues were exposed by dissection of the fascia over the parotid superficial lobe and then totally excised. The foreign body was removed from the specimen, and then, the excised specimen was sent for pathological examination [Figure 3].

After the excision of the foreign body and all surrounding inflamed tissues, methylene blue was injected to reveal stenosis in the Stensen duct. Because methylene blue did not pass through the passage from the duct into the gland, a stent was placed into the canal endoscopically, and dilatation was performed to the Stensen duct [Figure 4].

In the histopathological evaluation of the specimen, foreign body reactions compatible with plant histomorphology, active chronic inflammatory granulation tissue, and foreign body type multinuclear giant cells around the cyst and sialadenitis were detected [Figure 5].

DISCUSSION

In the literature, foreign body etiologies reported in the parotid gland include glass, wood pieces, pencil tips, metallic foreign bodies, pins, staples, thorns, nails, grass blades, broom pieces,



Figure 1: The appearance of the swelling in the left malar region of the case (arrow)

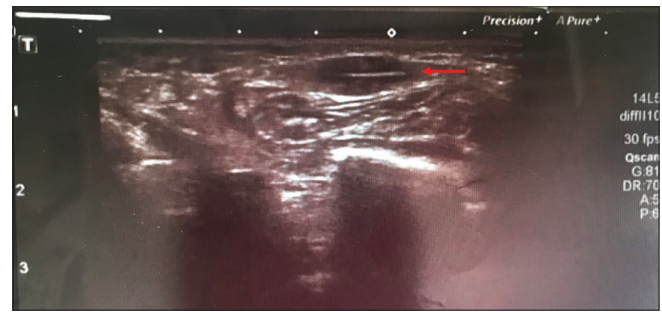


Figure 2: Ultrasonographic view of a 2, 5 cm foreign body located intraglandularly in the parotid gland (arrow)

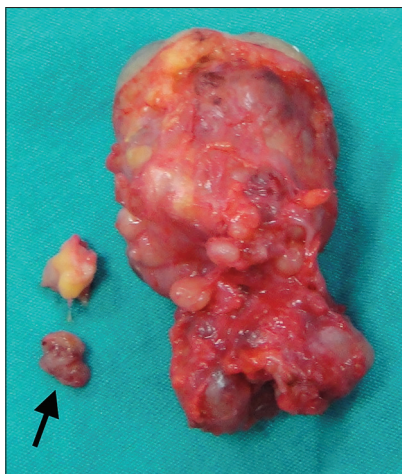


Figure 3: Macroscopic view of the foreign body removed by entering from the cheek surface (arrow; Chia plant)



Figure 4: Dilatation by placing a stent endoscopically in the Stensen duct

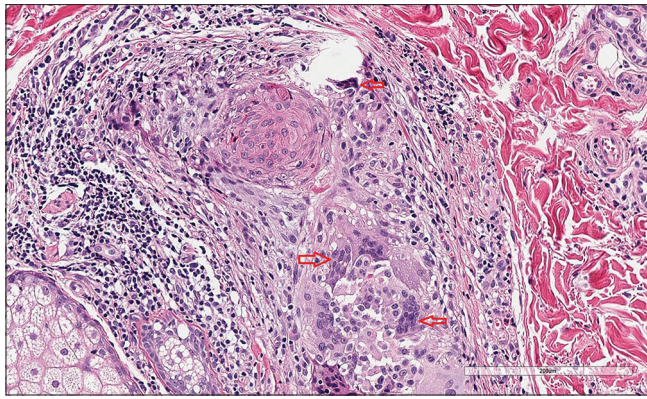


Figure 5: Histopathological view of the specimen (H and E, ×200) (arrows; giant cells)

hairbrush or toothbrush bristles, wheatears, straw thorns, dry grass, plant fibers, sunflower seeds, feathers, shrapnel, shredded splinters, and hair.^[5]

In cases of foreign bodies in the parotid gland, diagnosed in a late stage after penetration of foreign bodies, potential problems such as fistula may develop, and treatment may become more difficult.^[6] In our case, it is obvious that the risk of fistulization through the skin will increase if it is at the latest stage. Because it had clinical symptoms, the diagnosis could be made at the cellulite stage, and the intervention could be performed without further delay. However, it should be kept in mind that foreign bodies that may remain clinically occult may be detected at a later stage, and treatment may be more difficult.

Herbal foreign bodies are generally insoluble in the salivary gland and become granulomatous.^[7] In the case of our study, the possible mechanism of foreign body reaction in the parotid gland would be; that the foreign body in the plant histomorphology entered the Stenson duct, it settled in the parotid gland with retrograde migration over time as a result of cheek muscle movements and emerged as a mass due to foreign body reaction in the gland and around the duct. Although this etiological mechanism is observed very rarely, it should be considered in the differential diagnosis of cheek masses.

Chia (*Salvia hispanica*) has been known for about 5500 years and is an important component of the diets of some ancient communities.^[8] It is rich in polyunsaturated fatty acids and high in fiber content. It is used for phytotherapy in some diseases such as obesity, hypertension, cardiovascular diseases, cancer, and diabetes.^[9] As far as it is known, there is no case of parotid mass developing due to chia plant in the literature. Therefore, our case is quite unique.

In the case of our study, the foreign body and the surrounding foreign body reaction tissues were removed by entering through a skin incision over the mass to avoid removal of the entire parotid gland and possible facial nerve damage. The stenosis formed in the parotid duct after excision was treated with endoscopic stenting applied to the Stensen duct.^[10] It is a point to keep in mind in these rare cases that this situation should not be overlooked in possible stenosis, and that exploration should be performed in the acute period, and dilatation should be applied if necessary. In addition, nutritional habit is changing day by day in the modern era. Therefore, it is crucial for us to keep in mind the potential complications of the latest food options in human nutrition.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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