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# Complication of Extraction with Unusual Herniation of the Buccal Fat Pad into the Oral Cavity: A Rare Case Report

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***Abstract:***
***Background:*** *A rare case of buccal fat pad herniation into oral cavity after extraction. Herniation of the buccal pad of fat is commonly seen in the paediatric age group. It is rarely seen in the adult and older age group at the time of trauma and surgical procedures like orthognathic surgeries and tumour resection.*
***Materials and method****: This case presents with herniation of buccal fat pad into the oral cavity resulting in a largeswelling which is a rare complication of extraction.Difficulty in mastication was one of the concerns of the patient.*
***Results:*** *Good post-operative healing was seen once the lesion was excised with no recurrence even after three months of follow up. Histopathological results showed well-circumscribed lobules of mature fat cells separated by thin fibrous septa.*
***Conclusion:*** *If the lesion persist in intra orally for many days after post-extraction, the only option left would be left is to excise the lesion and regular follow up the site so that it healsuneventful.*
***Key words: Adipose tissue,Buccal fat pad,Masticatory difficulties, Post extraction herniation.***

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## I. Introduction:

The buccal fat pad (BFP) was first described in the early medical literature by Heister in 1732[1], Bichat in 1802 [2], The average weight of BFP is 9.3 g and average volume is 9.6 mL Stuzin et al[3] .Though detailed anatomic description was published by Scammon[4]it was first, followed by Goughran.The buccal fat represents a specialized type of tissue that is distinct from subcutaneous fat. Buccal fat also known as Bichat's fat pad is one of several encapsulated fat masses in the cheek located on both sides of the face between the buccinators muscle and the masseter, the zygomaticus major, and the zygomaticus minor. The main body is situated deep along the posterior maxilla and upper fibers of the buccinator. The buccal extension is located superficially within the cheek, while the pterygoid and temporal extensions are more deeply situated. It is encapsulated by a parotidomassetric fascia and enters the cheek below the parotid duct. It extends along the anterior border of the masseter and descends into the mandibular retro-molar region. [6]

The buccal fat pad had limited clinical importance for many years and was usually considered as a surgical hindrance because of its accidental encounter either during various surgeries in theptetygomaxillary space or injuries of the maxillofacial region. It is currently of interest in aesthetic surgery, such as buccal lipectomy in the adults, to modify the contour of the face [3]. During the past few years's reports have encouraged the use of buccal fat pad for reconstruction of oral defects. The easy mobilization of the buccal fat pad, excellent blood supply and minimal donor site morbidity makes it an ideal flap [3].

Extraction of third molars is one of the most common procedures performed by oral surgeons. Generally, these surgeries do not encounter difficulties but at times can result in complications; a complication rate of 4.6–30.9% following the extraction of third molars is reported in the literature. [7]

Complications include those associated with impacted or adjacent tooth, soft tissue, nerve injuries, bone complications, maxillary sinus, complications associated with surgical equipment, swallowing and aspiration [8]. Injury of the buccal fat pad is mostly the result of deep incision performed during upper and lower third molar surgery. Any trauma can cause rupture of the buccal fat pad capsules causing the buccal extension drop or prolapse into the mouth or subcutaneous layer. Traumatic Herniation of buccal fat pad is most

common at the time of surgeries in the pterygomaxillary and mandibular region, any minor tear of the buccinator muscle can allow a herniation of buccal fat into the oral cavity.

## II. Case Report

A 54-year-old female patient reported to the Department oral medicine with a large intraoral swelling(figure1). She gave a history of tooth extraction in right upper and lower third molar region. She saw a small swelling in her oral cavity on first day following extraction in the right posterior teeth region, which gradually increased to present size (figure2). The swelling increased in size and was protruding from the right buccal mucosa. Intraoral examination revealed a solitary well defined, soft-sessile nontender mass, having a smooth surface measuring around 2x2cm. It was roughly oval in shape, with the samecolour as that of the adjacent mucosa. The swelling was projecting from the right buccal mucosa, protruding between the occlusal surfaces of maxillary and mandibular posterior teeth (figure3). Routine laboratory investigations and radiographs were taken. Diascopy test was negative [9]. Slip test was positive. Hence, correlating with the above clinical features a provisional diagnosis of lipoma of right buccal mucosa was given (Figure4).

Under local anaesthesia, excisional biopsy was performed with minimal bleeding.3-0 silk suture was placed to close the wound primarily (Figure 5). The patient was examined after a week, and the postoperative course was uneventful with good healing site. The lesion was sent for histopathological examination. The excised specimen floated when placed in 10% formalin, indicating the presence of adipose tissue. Under microscopic examination, well-circumscribed lobules of mature fat cells separated by thin fibrous septa were seen (Figure 6). Hence, the final diagnosis was given as herniation of BFP. Routine follow up was done to rule out any recurrence post 3 months of excision (figure 7).

## III. Discussion:

In most of the cases herniation of the buccal fat pad occur with trauma to the face or fall with a foreign object, causing trauma to the mouth. They have been described as traumatic herniation of buccal fat pad or traumatic pseudolipoma.Herniation of the buccal fat pad can occur both intraorally and extra orally. On the other hand, the outward prolapse of buccal fat pad lower portion, results in a facial mass, which has been mentioned as pseudoherniation of the buccal fat pad, or "chipmunk cheek.". Outward facial mass is mainly the reason for surgical trauma (eg, facial rejuvenation surgeries or liposuction) and has also been reported in plastic surgery literature [11]. Thereare literatures stating that buccal fat pad resection is relative to the surrounding anatomical structures and it can be inadvertently injured during the resection [12]. In our case the patient had a history of tooth extraction in both upper and lower right posterior teeth region which was a tedious procedure, thereby causing trauma to the surrounding buccal fat pad resulting in fat herniation. As stated above the buccal fat pad is an anterior extension of the masticatory fat pad, which fills the space of the masticatory musculature. The fat pad rests on the maxillary periosteum and upper fibres of the buccinators with processes that extend to the pterygopalatine, temporal, pterygoid, and buccal spaces. The relationship of the buccal branches of the facial nerve and the location of the parotid duct in proximity to this pad is variable and has widely been described in the literature. It is seen in cases that the lesion was noted almost at the occlusal level, near the parotid papilla. [10, 13, 14] In our case it was a solitary, well defined, soft-sessile non-tender mass, having a smooth surface measuring around 2x2cm. it was oval in shape,pale pink colour as that of the adjacent mucosa projecting from the right buccal mucosa, protruding in between the occlusal surfaces of maxillary and mandibular posterior teeth. Generalised Facial edema was absent and swelling was noticed on the first day which gradually increased around one week of post extraction to present size.

Benign tumours like lipoma, traumatic fibroma (inflammatory hyperplasia), salivary neoplasm, haemangioma, neuroma or foreign body granuloma can be included in the differential diagnosis. In our patient history of trauma while extracting posterior teeth was the main reason for the herniation of buccal fat pad. Matarasso suggested that a defect or weakness in the parotidomasseteric fascia of the region contributed to the occurrence of traumatic herniation of buccal fat pad [11] Histopathology reveals a connective tissue stroma with groups of mature adipocytes without cellular metaplasia and epithelial lining. There was varying degree of inflammatory cell infiltration also seen.

Treatment modality for the traumatic herniation of the BFP includes, repositioning followed by primary closure, when the case is reported immediately within first 5 h with small protruded mass with minimal inflammatory changes [15].When the case is reported after 4 h, surgical excision without traumatizing adjacent parotid papilla and duct can be performedwherein the mass is too large to be repositioned [16].Soft tissue complications during surgery of impacted teeth involve several injuries such as injuries of the neighbouring soft tissues including Bichat's fat pad, haemorrhage and hematoma formation or surgical emphysema [17].

In our case the lesion was dissected completely without damaging parotid papilla and duct. Once the lesion was completely excised and primary closure was done, follow up of the patient was done for three months, where the excision site showed normal healing without any recurrence or complications.

## IV. Conclusion:

Buccal fat pad is intimately related to the masticatory muscles, facial nerve and parotid duct. Any trauma or weakness to the parotidomasseteric fascia of the region contributed to the traumatic herniation of Buccal fat pad. Buccal fat pad has accidental encounter either during various surgeries in the ptetygomaxillaryregion and traumaticinjuries to the maxillofacial area. Herniation of the buccal fat pad is also seen while performing procedures of impacted tooth, removal of an ankylosed tooth, which add on for excess soft tissue damage. Proper identification of the buccal fat pad at the time of extraction and repositioning of the same within standard time of 4 hrs helps the tissue heal uneventfully. If the lesion exists intra orally post extractionof few days, the only option left is resection and follow up the site for uneventful healing.

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The authors report no conflicts of interest related to this study

Figure 1.front veiw

figure 2. OPG radaiograph

Figure 3. lesion measuring around 2x2 cm

figure 4. Diascopy test of the lesion

Figure 5. Excision of the lesion

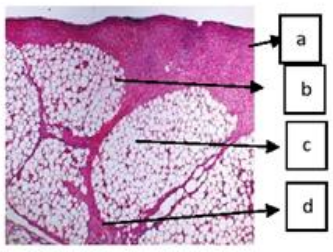


figure 6. histopathology

figure7. Follow-up

a. stratified squamous epithelium
b. connective tissue stroma
c. mature fat cells
d. blood vessel

## References

[1]. Heister L. Compendium Anatomicum. Norimbergae1732.
[2]. Bichat F. AnatomieGenerale, Appliqué a la Physilogie et a la Medicine. Paris: Grosson, Gabon Et Cie; 1802.
[3]. Stuzin JM, Wagstrom L, Kawamoto HK, Baker TJ, Wolfe SA. The anatomy and clinical applications of the buccal fat pad. PlastReconstrSurg1990; 85:29-37.
[4]. Scammon RE. On the development and finer structure of the corpus adiposum buccal. Anat Ret 1919; 15:267.

[5]. Goughran GR. Fasciae of the masticator space. Anat Ret 1957; 129:383.
[6]. Stuzin J. M., Wagstrom L., Kawamoto H. K., Baker T. J, Wolfe A.: The antomy and clinical applications of the buccal fat pad. Plastreconstr Surg. 1990; 85: 29 - 37.
[7]. Bouloux GF, Steed MB, Perciaccante VJ. Complications of third molar surgery. Oral MaxillofacSurg Clin North Am 2007; 19:117–28. https://doi.org/10.1016/j.coms.2006.11.013
[8]. Zhang Yan YP, Qi KM, Wang JQ, Liu, ZF. Anatomical structure of the buccal fat pad and its clinical adaptations". Plastic and reconstructive surgery 2002;109 (7): 2509–18; discussion 2519–20.
[9]. Journal of Clincaland Experimental Dentistry. 2016;8(4):e448-58.
[10]. Brooke RI. Traumatic herniation of buccal pad of fat (traumatic pseudolipoma). *Oral Surg*45:689-691, 1978.
[11]. Matarasso A. Pseudoherniation of the buccal fat pad:a new clinical syndrome.*PlastReconstrSurg*100:723-730, 1997.
[12]. Xiao H, Bayramicli M, Jackson IT. Volumetric analysis of the buccal fat pad. Eur J Plast Surg. 1999; 22:177–181
[13]. Messenger KL, Cloyd W. Tramatic herniation of the buccal fat pad: report of a case. Oral Surg 43:41-43, 1977.
[14]. Muroki, T, Nakagawa K, Narinobou M, Yamamoto E. A case of traumatic herniation of buccal fat pad: report of a case. J JpnStomatol Soc 45:46-50, 1996
[15]. Fleming P. Traumatic herniation of buccal fat pad: A report of two cases. Br J Oral MaxillofacSurg1986; 24:265-8
[16]. Horie N, Shimoyama T, Kaneko T, Ide F. Traumatic herniation of the buccal fat pad. Pediatr Dent 2001; 23:249-52.
[17]. Kasapoğlu Ç, Gürkan-Köseoğlu B, Koçak-Berberoğlu H (2005). GömükdiŞler.NobelilaÇ. Istanbul

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