

# Traumatic Intraoral Herniation of Buccal Fat Pad: A Case Report

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## ABSTRACT

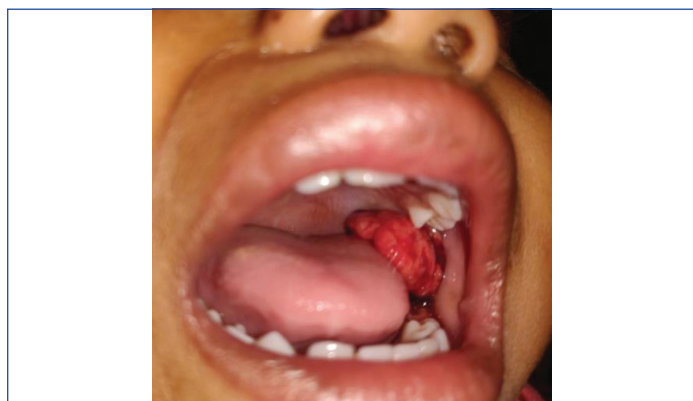
Intraoral herniation of the Buccal Fat Pad (BFP) is a rarely encountered injury in the paediatric group population. A 24-month-old girl was brought to the Emergency Department by her parents. The parents reported an alleged history of intraoral trauma while playing with a wooden ice-cream stick approximately 14 hours ago. The intraoral examination revealed a yellowish blood-tinged pedunculated mass of soft tissue which was non tender, non pulsatile and appeared to be emanating from the left buccal mucosa. She was immediately hospitalised and necessary investigations were performed. The patient was taken up for surgical intervention under general anaesthesia. The protruding mass, an extension of the BFP, was thoroughly cleansed and repositioned into its normal anatomic position through the existing laceration. The site healed with no post-operative complication in spite of the delayed repositioning.

**Keywords:** Oral surgery, Paediatric dentistry, Trauma

## CASE REPORT

A 24-month-old girl presented to the emergency room. The traumatic event was not eye-witnessed. Her mother suspects her daughter to have fallen while playing with a wooden ice cream stick in her hand the night before. The parents do not report any alteration in the level of consciousness. A protruding mass was found in the left oral cavity with minimal bleeding from the mouth along with mild facial oedema immediately after the accident. Due to the unavailability of transportation and no medical facility available in their village, the parents brought the child to the institution on the next morning [Table/Fig-1].

approximately 5 mm posteroinferior to the orifice of the Stenson's duct. The left parotid duct expressed clear saliva. The clinical picture indicated that the mass was the BFP due to its smooth surface texture and peculiar anatomic position [Table/Fig-2]. This mass had herniated intraorally due to the tear in the parotidomasseteric fascia and buccinator muscle. As there was no sign of necrosis or fibrosis or tear of the capsule it was decided to reposition it despite its size. The protruding BFP was thoroughly cleansed with saline and gently pushed to its normal anatomic position through the existing defect. The laceration was thoroughly irrigated and closed with 3-0 polyglactin 910 (Vicryl) in a simple interrupted fashion. Utmost care was taken during the procedure to prevent injury to the Stenson's duct [Table/Fig-3].



[Table/Fig-1]: Clinical picture.

On clinical examination, approximately 14 hours from the time of the accident, the child was noted to have a large, smooth mass protruding from the left buccal mucosa which was blood-tinged yellow in colour. The parents denied any evidence of colour change of the protruding mass since the injury. Oral laceration was minimal and bleeding was absent. The size of the protruding mass changed with mandibular movements.

At this time the pedunculated lesion was suspected to be a portion of the BFP. However, a detailed examination was not possible as the child was unable to cooperate. Her mother reported providing daily oral care and denied the presence of any lesion before this event. Medical history and latest laboratory investigations were unremarkable. After appropriate investigations and obtaining informed consent, the patient was taken up for examination and necessary intervention under general anaesthesia.

In the operating room, she was noted to have an approximately 3×1.5 cm pedunculated mass protruding from the left buccal mucosa



[Table/Fig-2]: Intraoperative picture.



[Table/Fig-3]: Clinical picture immediately after suturing.

The repositioning was done approximately 16 hours after the injury. The patient was monitored indoors for 48 hours after the procedure. Intravenous antibiotics and analgesics were administered by the paediatric team for the three days. There was evidence of postsurgical facial oedema for three days. The patient was discharged and recalled once a week for two weeks. Intraoral mucosal healing was uneventful and facial symmetry was restored. No complications have been noted after six months [Table/Fig-4].



[Table/Fig-4]: Postoperative picture.

## DISCUSSION

The BFP is a mass of specialised fatty tissue which is distinct from subcutaneous fat and lines the masticatory space [1]. The BFP is relatively large in infants; therefore, a minor tear of the buccinator muscle can allow it to herniate intraorally [2]. In 1997, Matarasso suggested that a defect or weakness in the parotidomasseteric fascia of the region contributes to the herniation [3]. The differential diagnosis included pyogenic granuloma, inflammatory pseudotumour, foreign body granuloma, traumatic neuroma, lipoma, hemangioma, and salivary neoplasm [4]. However the history of trauma, the absence of the mass before the accident, its specific anatomic site, and adipose-like appearance supported our diagnosis.

Browne WG in his article mentioned a similar case which was successfully managed by repositioning through the laceration, but the article fails to mention the time elapsed between the avulsion and the surgical intervention [5].

Amongst the documented cases only a few authors including Horie N et al., Clawson JR et al., and Fleming P preferred to replace the pad of fat back to where it came from through the existing laceration [4,6,7]. In all these cases, early evaluation of the protruding mass was possible (before four hours) and these cases underwent the repositioning procedure within 4 to 5 hours. Also, the protruded mass in cases reported by Clawson JR et al., and Fleming P were small with minimal inflammatory changes, hence they advised to reposition the herniated fat pad immediately [6,7]. Most of the authors [8-12] recommended excision of the mass at the base, as the time elapsed since injury was more than 4-5 hours, and they considered the mass being too large to reposition through the existing laceration site. Horie N et al., in his series of 2 case reports opinionated that if the mass is too large to replace in the limited laceration injury site or necrosis has appeared, it is recommended

to excise the mass at the base, and in case of early detection of avulsion if the protruded mass is small with minimal inflammatory change, the lesion should be repositioned immediately [4]. In both the methods, it is important not to traumatize the adjacent parotid papilla and duct [4]. It is interesting to note that almost of all these reported cases the aetiology was intraoral trauma occurring at the occlusal level, near the parotid papilla.

In the presented case, around 14 hours had elapsed from time of trauma to reporting time and the repositioning was done around the 16<sup>th</sup> hour postavulsion, but as there was no sign of necrosis and the capsule of fat pad was intact, and considering the undisturbed blood supply of the BFP it was decided to reposition it despite its size and the time elapsed. The anticipated complications of repositioning are necrosis of the BFP whereas the sequelae of excision are difficulty in jaw movements and facial disfigurement. The prognosis of both the treatment modalities is generally good, with repositioning having better immediate postoperative symmetry results and also as the pad once excised can not be regenerated.

## CONCLUSION(S)

Based on the observations the herniated BFP readjusts itself after repositioning and wound closure. The protocol of repositioning the herniated BFP within a time gap of 4 to 5 hours can be revised and delayed repositioning can be done if the site does not show any signs of necrosis. An earnest effort should be made to reposition the traumatically displaced BFP if no signs of necrosis or tear of the capsule are evident, as once the BFP is lost it cannot be regenerated.

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