

cle from the perichondrium on the posterior surface of costal cartilages.^{9,10}

Another problem in case of maxillectomy is the restoration of the maxillary alveolar arch. While the palate can be restored satisfactorily with soft tissue only, the cartilage and rib are inadequate as graft material when osseous-integrated implants are programmed, so this technique is unable to restore masticatory function. In our case, we performed a partial maxillectomy from the left canine area. The palate and maxillary alveolar arch defect was restored with soft tissue. One case report is too small to be significant, but this technique should be highly considered because it offers improvement and innovation in the immediate reconstructive surgery after head and neck cancer resection.

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J Oral Maxillofac Surg
63:1029-1032, 2005

Traumatic Prolapse of the Buccal Fat Pad (Traumatic Pseudolipoma): A Case Report and Literature Review

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Intraoral herniation of the buccal fat pad is a rarely encountered injury among the very young. It frequently presents as an expanding pedunculated mass of soft tissue emanating from the buccal mucosa following a minor trauma to the buccal soft tissues. The purpose of this article is to report a case of traumatic

prolapse of the buccal fat pad in a young girl, and to review the English literature with respect to this unusual injury.

Report of a Case

A 25-month-old African-American girl presented to the emergency room late in the evening with concern for a large and expanding intraoral lesion. Her mother reported that the child had been playing in another room when she was suspected to have fallen and was found to have some oral bleeding as well as an intraoral swelling. No definite traumatic event was witnessed. The mother reports the swelling is rapidly increasing in size. She was noted to have a large, smooth mass in the right oral cavity which was reddish in color (Fig 1). The mass was noted to be continuing to enlarge during the examination. It was thought to be a pedunculated lesion from the buccal mucosa or alveolus, but because of the child's uncooperativeness, a detailed examination was not possible. Past medical and surgical histories were unremarkable. Her mother reported providing daily oral care and denied the presence of any lesion before this event. Laboratory investigation was essentially

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FIGURE 1. Initial appearance of intraoral mass on presentation to the emergency department.

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normal. The patient was admitted to have an exam under anesthesia, and appropriate surgical intervention, the following morning.

The following morning the lesion had not significantly enlarged, but had become deeper blue in color (Fig 2). In the operating room, she was noted to have an approximately 3- × 1.5-cm pedunculated mass arising from the right buccal mucosa approximately 1 cm posteroinferior to the orifice of the Stenson's duct (Fig 3). The right parotid duct expressed clear saliva without any difficulty. The defect was extended approximately 0.5 cm and the lesion was dissected deeply along the stalk. The lesion was subsequently excised and submitted for histopatho-



FIGURE 2. Appearance of the lesion the following morning reflecting the changes associated with thrombosis and focal necrosis.

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FIGURE 3. Examination of the lesion under general anesthesia demonstrating a pedunculated mass originating in the buccal mucosa at the level of the occlusal plane through a small defect in the buccal soft tissues.

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logic examination (Figs 4 and 5). The laceration was irrigated and closed in simple fashion with resorbable sutures. Pathologic exam demonstrated fat consistent with the buccal fat pad.

Discussion

Traumatic herniation of the buccal fat pad into the oral cavity was first reported in the English literature by Clawson et al¹ in 1968. Shortly thereafter, Brooke et al reported another case of intraoral prolapse of the buccal fat pad and coined the term *traumatic pseudolipoma*.² A review of the English literature indicates this is an extremely rare injury, with this case being one of only 19 ever reported (Table 1).¹⁻¹⁵ Analysis of



FIGURE 4. Excised specimen.

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Table 1. SUMMARY OF THE ENGLISH LITERATURE REPORTS OF TRAUMATIC PSEUDOLIPOMA

| Author | Year | Age/Gender | Mechanism of Injury | Treatment |
|---------------------------|------|------------|----------------------|-----------|
| Clawson ¹ | 1968 | 24 mo/F | Fall on broom handle | Replaced |
| Brooke ² | 1969 | 28 mo/M | Face vs chair | Excision |
| Browne ³ | 1970 | 10 mo/M | Model antelope horn | Replaced |
| Cavina ⁴ | 1972 | 5 mo/M | Spoon | Excision |
| Messenger ⁵ | 1977 | 48 mo/M | Fall of scooter | Excision |
| Wolford ⁶ | 1981 | 8 mo/F | Toy | Excision |
| Judah ⁷ | 1984 | 4 mo/M | Unknown | Excision |
| Peacock ⁸ | 1985 | 10 mo/M | Pencil | Excision |
| Fleming ⁹ | 1986 | 10 mo/M | Edge of fireguard | Excision |
| | | 144 mo/M | Fist vs face | Replaced |
| Kellner ¹⁰ | 1987 | 18 mo/M | Comb | Excision |
| Haria ¹¹ | 1991 | 48 mo/M | Fall from bicycle | Excision |
| Takenoshita ¹² | 1995 | 20 mo/F | Toothbrush | Excision |
| Zipfel ¹³ | 1996 | 9 mo/F | Hairbrush | Excision |
| | | 21 mo/M | Face vs table | Excision |
| Horie ¹⁴ | 2001 | 10 mo/M | Chopstick | Replaced |
| | | 21 mo/F | Toothbrush | Excision |
| Patil ¹⁵ | 2003 | 48 mo/F | Fall | Excision |
| Carter | 2005 | 25 mo/F | Unknown | Excision |

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the data indicates this event typically occurs in children ranging from 4 months to 4 years; however, 1 case has been reported in a 12-year-old boy.⁹ Additionally, Marano et al¹⁶ reported a case of traumatic herniation in a 21-year-old man with a zygomatico-maxillary complex fracture; however, this herniation was into the maxillary sinus and not the oral cavity as in all the other reported instances. Median age of reported cases is 20 months.

The buccal fat pad was first described by Heister¹⁷ in 1732; however, he believed it to be a glandular structure, and named it the “glandular morlares.” The true fatty nature of the tissue was defined by Bichat¹⁸

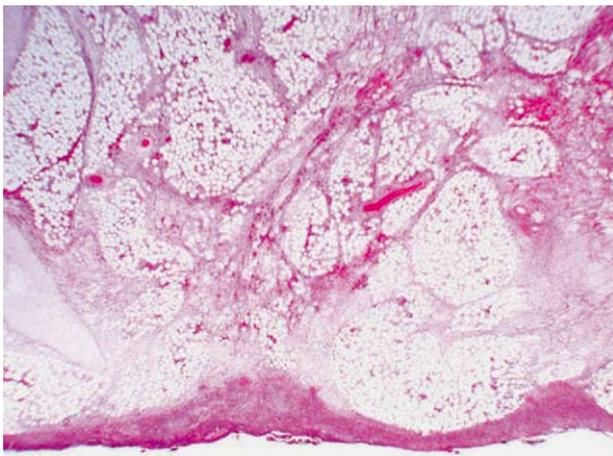


FIGURE 5. Histopathologic section of the lesion demonstrating groups of adipocytes in a connective tissue stroma along with inflammatory infiltrate.

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in 1802, and became known as the “buccal fat pad of Bichat,” or the “corpus adeposum buccae.” Stuzin¹⁹ describes the fat pad as a rounded, biconvex structure with a thin but distinctive capsule lying between the buccinator and masseter muscles. It consists of a main body with 4 main extensions: buccal, pterygoid, superficial, and deep temporal. The buccal fat pad is located within the masticatory space and is in intimate association with the muscles of mastication, the parotid duct, and the facial nerve. It serves as a lining of the masticator space and is believed to aid in facilitating muscular movement. While it has been referred to as a surgical nuisance with many procedures in oral and maxillofacial surgery, it does have some valuable surgical functions. It can serve as a well vascularized, and readily obtainable, local flap in oral reconstructive procedures. It also may be removed in the buccal lipectomy procedure for cosmetic purposes. The buccal fat pad has increased volume in neonates and infants and has been referred to as the “suctorial pad.” This suckling activity in infants and young children may actually promote herniation following an injury to the buccal tissues.

Traumatic herniation of the buccal fat pad usually presents immediately, or within several hours of the initial injury. Typical inciting injuries are falls with a sharp object in the mouth, or a fall resulting in a laceration of the buccal tissues from occlusal trauma. It is soft, nontender, nonpulsatile, and does not blanch. It is pedunculated in nature and originates from the buccal mucosa near the parotid duct at the level of the maxillary occlusal plane. The mass is typically about 3 cm × 1.5 cm × 1.5 cm in dimension.

Initially it is yellow or red in color but progressively darkens to purple or deep blue as thrombosis and necrosis occurs. Often the observation of the intraoral mass is preceded by a minor, self-limited sentinel bleed. Only 1 case report describes any airway embarrassment; however, no details were provided, and no intervention occurred for another 24 hours without any apparent sequelae.⁸

Histologic examination reveals a connective tissue stroma with sheets and groups of adipocytes without atypia and no epithelial cover. The interstitial spaces are often occupied with extravasated red cells and acute or chronic inflammatory infiltrate. Focal thrombosis and necrosis have also been described.

Treatment consists of 1 of 2 surgical procedures, based mainly on the time from the initial injury. Replacing the tissue and closing the wound primarily has achieved good results. This is applicable to situations where an early diagnosis is made before inflammatory changes have occurred. In those situations where there is a delay before diagnosis or treatment, excision is preferred because of contamination and necrosis of the tissue. There is no long-term follow-up available as to the esthetic consequences of this method. With either method, care should be taken to avoid injury to the Stenson's duct and orifice.

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