

## Case Report

# A Neonate with Bilateral Buccal Fat Pad Protrusion

JFW Lo, AKY Siu, V ABDULLAH

**Abstract** This case report presents an interesting case of bilateral buccal swelling in a neonate. A newborn presented with bilateral buccal swelling, more prominent during crying. Clinical examination revealed smooth bulging from bilateral buccal mucosa, corresponded to buccal fat pad protrusion. The clinical progress of this case, buccal fat pad anatomy and bilateral protrusion of buccal fat pads are discussed in this case report.

**Key words** Buccal fat pad; Buccal swelling; Infant

### Case Report

A full-term boy, KH, was referred to our paediatric ENT clinic in July 2017 for bilateral buccal swelling. KH was born at 41st week, spontaneous vaginal delivery with a birth weight of 3.685 kg. Examination at birth showed bilateral buccal mucosal swelling, otherwise normal. There was no trauma history. Milk feeding was normal and he was discharged 2 days after birth.

KH was later assessed in our specialist clinic. Clinical examination showed bilateral buccal area swellings with smooth overlying mucosa. There was no discoloration nor the lesions appeared to be vascular. The swellings were soft on palpation and they were not cystic.

These findings corresponded to bilateral protrusion of buccal fat pads into the oral cavity, which is a benign condition that no intervention was required. Parents were reassured and observation was allowed.

KH had regular follow-up in our clinic. He maintained a normal growth with no problem in swallowing. Upon his latest follow-up at 12-month old, no tooth had erupted yet; he was on puree diet and was well tolerated. Clinical examination showed static bilateral buccal swelling with no significant change in appearance.

### Discussion

Buccal fat pad was first described by Heister in 1732, at that time it was thought to be a gland and was named as glandula molaris. Bichat later discovered that this structure consisted of fat. The buccal fat pad is located at the buccal space, bounded laterally by cheek skin, medially by buccopharyngeal fascia and buccinator muscle. It is in closed proximity with the parotid duct, facial artery and facial vein. The volume of a buccal fat pad is estimated to be 10 ml, but varies among individuals and from side-to-side. The pad develops at 10th week of gestation and is the one of the most well-developed adipose tissue at birth. The fat pad persists through adult life and is known to be resistant to emaciation.<sup>1</sup>

The function of buccal fat pad has not been fully understood yet. Most authors believe that the prominence

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of buccal fat pad in infants helps with sucking, enhancing the capabilities of buccinators to prevent collapse during suckling.<sup>1</sup> It also acts as a gliding pad for masticatory muscles and a cushion to protect the neurovascular bundle.<sup>2</sup>

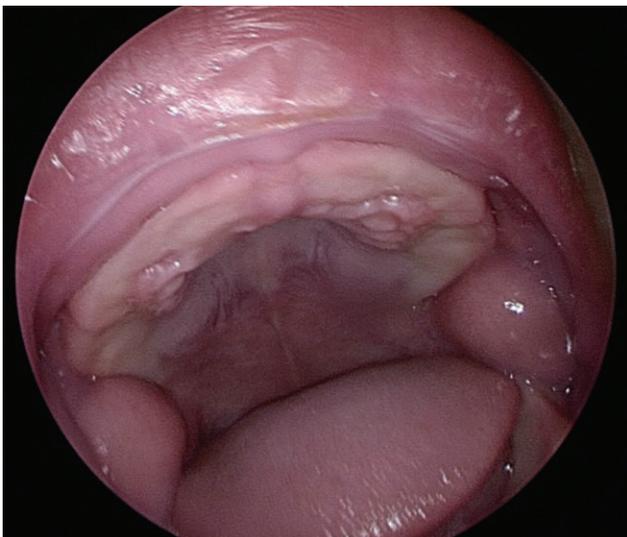
Swelling in buccal area is an unusual presentation in infant and toddlers. The differential diagnoses are neoplasms, traumatic herniation and protrusion as in our case.

Neoplasm, a typical fat-like lesion in infants or toddlers <3 years old, is lipoblastoma or lipoblastomatosis, which is a benign tumour due to post-natal continued production of lipoblasts. Other rarer tumours, such as lipoma, haemangioendothelioma and malignant lesions are also on the list.<sup>3</sup>

Traumatic herniation of buccal fat pad, or traumatic pseudolipoma, is a relatively well documented condition.



**Figure 1** Bilateral buccal swelling at 2nd day of life.



**Figure 2** Bilateral buccal swelling at 2nd month of life.

There are more than 10 case reports in the literatures. It is a direct result of trauma to the buccal mucosa but often there is a time-lapse between the insult and herniation.<sup>2</sup> It is typically seen in children, <5 years old usually, which is postulated to be related to weaker buccinator and masseter muscles and a relatively larger volume of buccal fat pad.<sup>3</sup> It presents as a non-tender, walnut-sized soft tumour, that classically reducible into the buccal space. Treatment is excision and prognosis is excellent.

Bilateral protrusion of buccal fat pad, is a rarely reported condition. We have only found one publication from Santiago et al<sup>4</sup> in 2004. Santiago reported a case of a 2-month old Caucasian male presented with bilateral buccal mucosal swelling, which increased in size during crying. Conservative management was selected and patient remained asymptomatic although swelling persisted.

Our case reported has the exact clinical appearance as Santiago's case. Except that it was noted right at birth. It is believed that in these cases, the buccal fat pad herniates through buccinator muscles due to their incomplete maturation, especially during crying and laughing where the muscles tense up. Once they stopped crying, the swellings disappear with relaxation of the muscles.<sup>4</sup> Conservative treatment is appropriate as muscles are expected to mature with time and solid diet. Imaging, such as magnetic resonance imaging, is not necessary in this clinical context. This is because bilateral tumours at birth are unlikely and imaging would not be able to provide a histological diagnosis; should clinical condition and progress change, imaging has to be considered. Parents should be advised its clinical progress and avoidance of any buccal trauma.

## Declaration of Interest

No conflict of interest.

## References

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