An unusual case of a foreign body
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Section: Paediatric radiology
Area of Interest: Ear / Nose / Throat
Procedure: Intraoperative
Procedure: Decision analysis
Imaging Technique: Experimental
Imaging Technique: CT
Special Focus: Foreign bodies Case Type: Clinical Cases
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Patient: 7 months, female

Clinical History:
A healthy 7-month-old presented with a “hole” in the roof of mouth but no history of trauma, feeding or airway distress. Examination revealed a translucent circular well-demarcated area on the mid-line of the secondary palate. Differential diagnosis included reactive, neoplastic or congenital causes and a mid-line palate fusion defect was favoured.

Imaging Findings:
A non-sedated CT confirmed a mass lesion adjacent to the hard palate. The axial reconstructions depicted a discoid lesion in the same plane as the hard palate. In the sagittal and coronal multi-planar reconstruction views, we were able to clearly visualise the intact hard palate, which was distinct from the mass lesion, and helped reduce the diagnostic uncertainty.

Discussion:
Young children not uncommonly present to ENT with foreign bodies in the ear or upper aerodigestive tract. Although there is only a small number of cases of palatal foreign bodies documented in the literature [1, 2], it remains a crucial differential in the paediatric population. The patient was brought to her local paediatric department following maternal concern over an incidentally discovered lesion in the roof of her mouth which had been noted over the previous week. There was no history of trauma, feeding difficulty or airway distress and all milestones were appropriate. The child was referred to orthodontics, plastic surgery and then ENT. On clinical examination there was a raw translucent circular well-demarcated area on the mid-line of the secondary palate. This appeared open towards the nasal floor, however, flexible nasoendoscopy confirmed a normal nasal floor. The multi-disciplinary team considered differential diagnoses of reactive, neoplastic and congenital causes and a mid-line palate fusion defect was favoured. A non-sedated CT confirmed a mass lesion, but an intact palate. The CT was essential to further define the extent of the lesion, particularly its relationship to the bony hard palate. Additionally it offered the opportunity to potentially avoid an unnecessary general anaesthesia. An examination under anaesthesia revealed the diagnosis: a plastic disc. This was easily extracted from surrounding granulation tissue and a layer of mucosa which had enveloped the foreign body. The child made a complete recovery with no long-term sequelae. The plastic disc was part of a Christmas bauble, which the child had presumably picked up from the floor. This case demonstrates the unique property of the hard palate to harbour a smooth circular foreign body via a vacuum seal, probably exacerbated by pressure from the sucking and thrusting of the oral tongue. In the paediatric population when considering palatal pathology it is essential to consider a foreign body as part of the differential
Differential Diagnosis List: Foreign Body. A plastic disk with a thin layer of mucous membrane covering it, Mid-line palate fusion defect, Nasal cyst

Final Diagnosis: Foreign Body. A plastic disk with a thin layer of mucous membrane covering it.

References:
**Figure 1**

**Description:** A clinical picture of the hard palate showing a circular translucent lesion. No vomer visible. **Origin:** Royal Hospital for Sick Children, Belfast, UK
Description: Sagittal multiplanar reconstruction CT image showing foreign body adjacent to hard palate (single-ended white arrow) Origin: Royal Hospital for Sick Children, Belfast
Figure 3

Description: Axial CT showing discoid foreign body in plane of hard palate (double-ended white arrow)

Origin: Royal Hospital for Sick Children, Belfast
Figure 4

Description: Coronal multiplanar reconstruction CT image showing foreign body adjacent to hard palate (single-ended white arrow) Origin: Royal Hospital for Sick Children, Belfast