



Foreign Body Mimicking an Oral Pathology

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Abstract

Foreign bodies' adherence to the hard palate is unusual and can mimic an oral pathology. The diagnosis of this foreign body is challenging, it is based on anamnestic history, unspecific or absent symptoms and oral examination. The oral examination could be difficult when dealing with paediatric patients. Imaging techniques may mislead and so an exam under anaesthesia is often necessary to make the proper diagnosis. We report a case of 2 years-old male child referred to our attention for a strange lesion on the hard palate. After poorly significant MRI, we were unable to perform an oral examination and a general anaesthesia procedure was performed. A small translucent mass that turned out to be a piece of plastic adherent to the hard palate was removed.

Introduction

Although foreign bodies ingestion is a common paediatric emergency, their adherence to the hard palate are unusual and can occasionally mimic other types of oral pathologies, however in a child with a firm palate lesion this possibility should be considered.

The age range is 3 to 18 months, infant, in fact, frequently place small objects in their mouths [1-11]. The anatomy of the paediatric palate, the position of the tongue, thumb-sucking, pacifier use and feeding patterns facilitate the adherence of objects to the roof of the oral cavity pushing the foreign body against the palate and creating a suction enough to retain the object in place, then the surrounding mucosa may cover the edges of the foreign body sealing it to the palate [10].

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Several types of objects have been removed from the palate of the children, including: nutshell, screw cover, clothing button, artificial nails, billiard cue tip, bottle and pen cap, toy parts, and even coins [1, 2, 6, 7-9]. Find of medical supplies such as pieces of *gutta percha* have also been reported in literature. In these cases patients are adults or older children [4-5].

The diagnosis of palatal foreign body is frequently difficult because the clinical symptoms are absent or unspecific (increase temperature, pain, discomfort, decrease appetite), anamnestic histories are various and often confused and the age of the patients makes physical examination really complicated.

Imaging techniques may mislead and so an exam under anaesthesia is often necessary to make the proper diagnosis [3-4].

Palatal lesions in neonates and infants are extremely rare; a wide variety of pathological lesions are considered in the differential diagnosis including: leukemic infiltrates, lymphoma, eosinophilic granuloma, basal



Figure1: Image of the palate with trans-glossy appearance of the lesion; note the irregular appearance of the margins.

encephaloceles, congenital lipomas, neuroectodermal tumor of infancy, sarcomas, odontogenic cyst, torus palatinus, infection, inflammatory disorder [1-4]. The most common initial diagnostic impression reported in literature is neoplastic mass, however foreign bodies is more common than pathological lesions.

Mucosal necrosis, inflammation, superinfection and object aspiration are the most common complications, so treatment must be sudden [1, 2, 6].

Case Report

A 2 years-old male child came to our attention with a strange lesion on the hard palate, (Figure 1) noted by his mother approximately two weeks before the visit. The child has been previously seen by his family physician that made the presumptive diagnosis of a hard palate tumor.

The mother did not report history of feeding, voice or airway abnormalities, in her opinion he did not present weight loss and she denied febrile episodes. The child was otherwise healthy. Head and neck examination was within normal limits: the soft palate, maxilla, and midface were normally developed, and there was no lymphadenopathy. However patient was extremely irritated during the visit

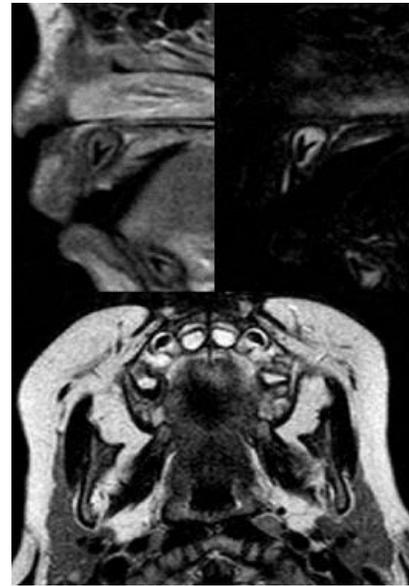


Figure 2: MRI show a fairly demarcated soft-tissue low intensity mass in the middle of the palate, without enhancement nor evidence of bone destruction.

and it was impossible to make a complete oral exam; we were able to see only briefly a yellowish lesion, without palpating it. According to the position and the appearance of the mass we took into consideration various diagnostic hypotheses: giant-cell granuloma, an inflammatory reaction, lipoma, neuroectodermal tumor, vascular disorder, dentigerous cysts, keratocysts, odontogenic tumor (such as ameloblastomas), sarcoma and other benign or malignant neoplastic lesions. Before to make a biopsy we requested an MRI under general anesthesia, in order to understand the precise extension of the lesion.

MRI showed a soft-tissue low intensity mass in the middle of the palate, it was fairly demarcated, although without properly net edges, there was neither enhancement nor evidence of bone destruction. (Figure 2)The absence of the enhancement excluded vascular or inflammatory disease. At the same time the hypothesis that it was a malignant neoplasm became less likely because malignant tumors usually present irregular margin and even bone destruction.



Figure 3: Small piece of translucent plastic (17x12 mm), attached to the hard palate.

However a similar finding was not decisive and did not exclude benign or malignant neoplastic lesion of childhood. We decided to perform an incisional biopsy under general anaesthesia. In the operating room it was possible to complete the examination of the oral cavity. The mass measured approximately 1x1.5 cm, it was yellowish and translucent (Figure 3), and it appeared tender, fixed, non-pulsate to touch. The lesion borders were not palpable because the surrounding erythematous mucosa had covered them.

Before making an incision, a periosteal elevator was used to palpate the lesion and a gentle manipulation was sufficient to dislodge a small translucent mass that turned out to be a piece of plastic adherent to the hard palate. The soft tissue underneath appeared irritated but intact (Figure 4), even though the plastic borders had left an impression on it. The histological examination of the underlying mucosa revealed only the presence of an inflammatory reaction, without the presence of neoplastic cells. The patient discharged without complication and one month later the mucosa had fully recovered.

Discussion

Foreign bodies of the hard palate are unusual occurrence however they should be considered in differential diagnosis of palatal masses in the infant population, in fact they



Figure 4: The soft tissue under the piece of plastic appear irritated but intact; note the surrounding erythematous mucosa. A histological examination of the mucosa revealed the presence of an inflammatory reaction.

are more common than pathological alteration of oral mucosa in childhood [1].

As a result of poor and often confusing medical history and lack of cooperation of the young patients, foreign bodies are often misdiagnosed, and they are determined to be a foreign body only on removal, so even the specialist may require unnecessary exams, that may be pointless and, sometimes, even negative or misleading [3-4].

From this we deduce the need to ask direct specific questions to the parents, investigating the tendency of the child to put things in his mouth and the eventual disappearance of small objects.

A complete initial examination of the oral cavity could also avoid the use of radiograph. An ultrasound of the lesion could be a useful option, not expensive and harmless to approach this type of case. Unfortunately in this case, in relation to the position of the lesion, the use of ultrasound is not easy; as well as the oral examination proves to be difficult when it comes to pediatric patients.

The object should be removed as quickly as possible to prevent severe complications: displacement with the risks of aspiration or entrance in digestive tract, inflammatory

overgrowth of the surrounding mucosa and pressure necrosis of tissues [1, 2, 6].

Some objects can be removed in ambulatory but often the clinician must resort to general anaesthesia for the lack of cooperation of the children and because some objects adhere strictly to the mucosa and are, therefore, difficult to pull off [1, 5].

Moreover in operating room is easier to prevent accidental aspiration of objects. The mucosa usually returns to normal after a short time from the simple removal of the foreign body.

Conflict of Interests

The authors declare that there are no conflicts of Interests

Authors' Contributions

PB: conceived the study, participated in design and edited the final manuscript

ACS: conceived the study, participated in design and edited the final manuscript.

SB: carried out the literature search and prepared the draft manuscript.

SN: carried out the literature search and prepared the draft manuscript.

Ethical Considerations

Written informed consent was obtained from the patient for publication of this case report.

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