**CASE REPORT**

**Iatrogenically-induced Dystrophic Calcification on the Palate: A Rare Case**

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**ABSTRACT**

Iatrogenically-induced dystrophic calcification in the maxillofacial region is a rare entity. We report an unusual case of iatrogenically induced dystrophic calcification due to an incompletely removed polypropylene, a nonresorbable suture material. A calcified mass was discovered in an 11-year-old boy who also had previous history of multiple surgeries for cleft palate. Examination of the hard tissue mass showed a calcification around polypropylene suture material.

**Keywords:** Calcification, Dystrophic, Iatrogenic, Foreign-body reaction.

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**INTRODUCTION**

Calcification occurring outside the skeleton is termed as 'ectopic mineralization or pathologic calcifications.' It is a benign process and can affect almost anywhere in the body. Dead tissues tend to get calcified more commonly than live ones. Even the extracellular matrix can calcify. A systemic mineral imbalance can often lead to widespread ectopic calcification, which is referred as metastatic calcification.\(^1\) In the absence of a systemic mineral imbalance, ectopic calcification is termed as dystrophic calcification. Dystrophic calcification is also commonly seen on a foreign object. In English literature, very few cases of iatrogenically-induced dystrophic calcification in maxillofacial region have been reported.\(^2,3\)

**CASE REPORT**

An 11-year-old boy from rural part of Kerala (India) presented to the outpatient department with a complaint of malpositioned upper front tooth. There was a history of multiple surgeries for cleft palate and cleft lip (at 6th and 18 months of age). General physical examination findings were noncontributory except the patient had nasal twang during phonation. All his maxillary anterior teeth were malaligned.

Cone beam computed tomography (CBCT) of palatal region showed a cleft space in the alveolus of anterior maxilla. A radiopaque mass of 3 × 4 cm over mid palate region was also seen (Fig. 1). Based on the radiographic features it was provisionally diagnosed as odontome. Differential diagnosis of bone sequestra was given based on history of multiple surgeries for cleft lip and cleft palate.

Patient was asymptomatic and was not aware of this calcified mass. No palpable swellings were present in the oral cavity, and the color and texture of oral mucosa appeared normal.

Hematologic examination revealed hemoglobin to be 13.7g% and all the other serologic values were within normal limits.

Cleft space was surgically explored under general anesthesia; the calcified tissue was excised and sent for biopsy. Cleft defect in the anterior alveolar region was filled with corticocancellous bone from iliac crest.

Five small bits of formalin fixed hard tissues were received by the pathologist, which was yellowish brown in color. A nonabsorbable suture like foreign material was seen pierced through one of the tissues (Figs 2 and 3).

Microscopy revealed homogenous hematoxyphilic calcified mass with globular pattern of calcification in few areas. It did not show any lamellated appearance, osteocytic lacunae or osteoblastic rimming or marrow spaces. Neither did they show any dentinal tubules. Focal infiltrations of chronic inflammatory cells were also noted (Fig. 4). Tissue showed negative reaction for PAS stain.

**DISCUSSION**

If a local change or disturbance in the tissue favors the nucleation of apatite crystals, it is known as dystrophic calcification. It usually occurs in a previously damaged tissue. Damage to the elastic fibers has been proposed as the etiology.\(^4\)

The injured tissue might have synthesized a mineralization competent matrix or by actively releasing matrix vesicles, thereby stimulating crystal nucleation.\(^5\) The suture thread...
lacunae with osteocytes or marrow spaces excluding the possibility of osseous tissue.

The next differential diagnosis we had to consider was complex odontoma. But mid palatal region is a rare site for complex odontoma and histologically there were no dentinal tubules, cementocytes or cementoblasts ruling out the possibility of a dental hard tissue.

In our case when the gross specimen was examined macroscopically, it was found that the hard tissue mass is formed around polypropylene suture material. This mass was found to be globular areas of calcifications under microscopic examination. A calcification found in the body around a foreign object can be considered as a dystrophic calcification as a result of foreign body reaction.

This report throws light on the possibility of inadvertently leaving nonresorbable surgical materials in the operative site and the subsequent tissue reactions to them.

When abnormal calcifications associated with soft tissue masses with previous history of surgery, it is recommended to consider iatrogenically induced dystrophic calcification as a possible differential diagnosis.

REFERENCES

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Fig. 2: Excised mass showing calcified irregular bodies of varying size

Fig. 3: Irregular calcified mass around the suture material

Fig. 4: Globular and sheets of dystrophic calcification (×10)