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Case Report

Dentistry Section

Post-traumatic Submandibular Haematoma in an Eight-year-old: A Case Report

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ABSTRACT

A haematoma is a collection of blood and blood components under the skin's subcutaneous layer. An acute wound to the blood vessel wall is a frequent cause of haematomas. Focal swelling, taut skin and soreness are associated with blood expanding and pooling beneath the skin. It can be difficult to diagnose if there is an underlying discolouration. The authors report a case of an eight-year-old female patient with the chief complaint of swelling on the face for two days due to a fall from a height of 10 feet. She reported a history of blood from the mouth and avulsed upper lateral incisors immediately after the fall. Bilateral diffuse swelling was observed in the submandibular region, measuring 7×7 cm extraorally, extending from the inferior border across the midline and from the chin to the hyoid bone, accompanied by facial asymmetry. The final diagnosis was post-traumatic haematoma and a conservative approach was the treatment of choice. The present case highlights the importance of correct diagnosis and early intervention.

Keywords: Compressions, Ecchymosis, Haemorrhage, Oedema, Swelling, Trauma

CASE REPORT

An eight-year-old female patient presented to the Department of Paediatric and Preventive Dentistry with the chief complaint of facial swelling for the past two days. The history indicates that the patient fell from a height of 10 feet while playing on the terrace, after which she developed diffuse swelling in the submandibular region.

The patient was immediately taken to a nearby hospital due to excessive swelling and pain. The pain started immediately after the trauma and was moderate, persisting throughout the day. Diclofenac 25 mg (SOS) was advised. No other treatment or investigation was conducted. The patient also reported using a heating pad for hot fomentation over the past two days. She mentioned that there was blood from her mouth and that her upper lateral incisors were avulsed immediately after the fall.

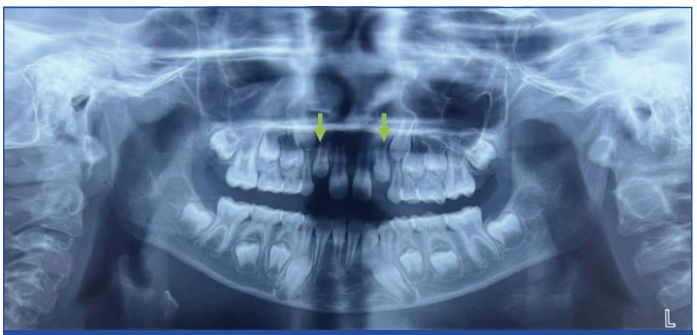
There were no other symptoms. She was systemically well and there was no relevant past medical or dental history.

She was well oriented to time, place and person during the examination. Bilateral diffuse swelling was observed in the submandibular region, measuring 7×7 cm extraorally, extending from the inferior border, crossing the midline and from the chin to the hyoid bone, resulting in facial asymmetry [Table/Fig-1a-c]. Tenderness was present on the inferior border bilaterally. Yellowish discolouration was noted in the submandibular region bilaterally. The swelling was firm in consistency and crepitus was present, accompanied by a local rise in temperature of 102.4°F; other vital signs were stable. Mouth opening was decreased to 16 mm. There was an avulsion of teeth 52 and 62 due to a fall [Table/Fig-2a-c].

[Table/Fig-1]: Extraoral photographs at initial presentation: Yellow arrows indicating the inferior border of the mandible: a) Frontal view; b) Right lateral view; c) Left lateral view; diffuse swelling in the submandibular region of 7×7 cm, extending from the inferior border crossing the midline and from chin till hyoid bone, resulting in facial asymmetry. (Images from left to right)

[Table/Fig-2]: Pre- and post-intraoral photographs: a) At initial presentation: Yellow arrows indicate redness in buccal mucosa and avulsed lateral incisors; b) At (15 days of follow-up): At the initial presentation, there is a partial disappearance of redness from the buccal mucosa; c) At 3 months of follow-up: Green arrows indicate complete disappearance of redness with eruption of permanent lateral incisors. (Images from left to right)

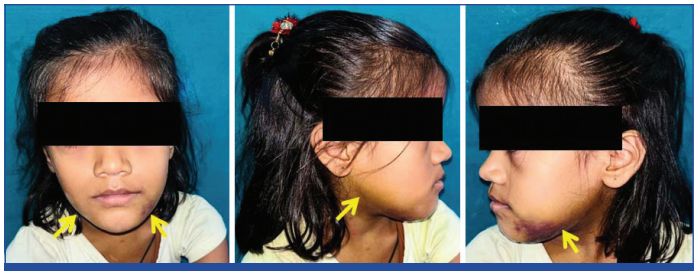
Differential diagnosis included Ludwig's Angina, Submandibular Space Infection and secondary infection due to hot fomentation. A provisional diagnosis of post-traumatic submandibular haematoma was made. An Orthopantomogram (OPG) was performed to rule out any fractures, but there were no relevant findings [Table/Fig-3]. Hence, a confirmatory diagnosis of post-traumatic submandibular haematoma was established.



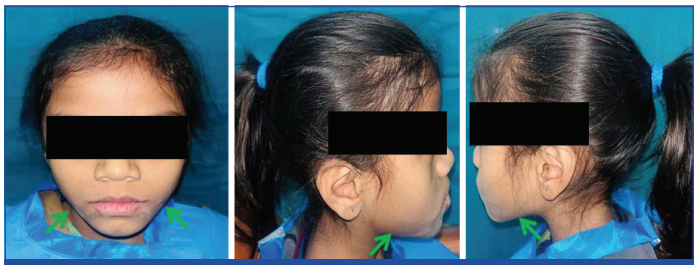
[Table/Fig-3]: Orthopantomogram (OPG) revealing mixed dentition period with erupting permanent lateral incisors (Nolla Stage-8), no sign of fracture or any other relevant findings.

The conservative approach was chosen as the treatment of choice. The patient was advised to stop hot compressions immediately. Syp. Amoxicillin 375 mg/7.5 mL (BD) and Syp. Ibuprofen 200 mg/5 mL (TDS) were prescribed for five days, along with a soft diet for 14 days. The patient was instructed to report immediately in case of an increase in swelling, pain, dysphagia, or dyspnoea.

The follow-up was conducted after 15 days [Table/Fig-4a-c] and again after three months [Table/Fig-5a-c]. After 15 days, the yellowish discolouration that was present extraorally during the initial visit had turned purplish; ecchymosis was observed in the right and left



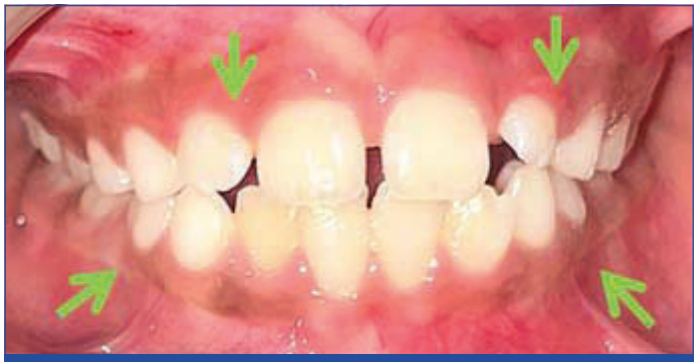
[Table/Fig-4]: Post (15 days of follow-up) photographs: The complete disappearance of swelling and the presence of purplish discolouration i.e., ecchymosis was observed on overlying skin on the right and left submandibular regions.



[Table/Fig-5]: Post (3 months of follow-up) photographs: Complete disappearance of swelling and presence of purplish discolouration i.e., ecchymosis was observed on overlying skin on the right and left submandibular regions.

submandibular regions, indicating a sign of healing. The extraoral swelling and redness in the buccal mucosa also reduced. A more comfortable mouth opening of approximately 40 mm was noted during the follow-up.

After three months, there were no signs of discolouration or swelling. Her permanent lateral incisors had erupted [Table/Fig-6].



[Table/Fig-6]: Post (3 months of follow-up) photographs: Complete disappearance of swelling and asymmetry was observed.

DISCUSSION

The present case highlights the importance of early diagnosis and intervention for post-traumatic haematoma, as it may mimic pseudo-Ludwig's Angina. An accumulation of blood under the skin's lipo-cuticular area is called a haematoma [1,2]. Significant haematomas need to be evacuated quickly and the offending bleeders must be coagulated. Smaller collections of blood that can be aspirated with a needle are referred to as minor haematomas [3].

If left untreated, a large haematoma might result in extreme pallor from arteriolar insufficiency or venous congestion within 48 hours. Blood can quickly begin to pool in spaces and airway obstruction may result from the posterior displacement of the tongue [4].

Sublingual space haemorrhage or haematomas can result in "pseudo-Ludwig's" phenomena, a condition defined by Lepore in 1976 as a disorder resulting from aberrant coagulation associated with warfarin medication [5]. Post-traumatic submandibular haematoma is rare, especially in children with an intact mandible. The collection of blood in the submandibular area is a significant indicator and one should look for associated airway symptoms. The present case report describes a case of post-traumatic submandibular haematoma.

The differences between Ludwig's angina and post-traumatic haematoma can be identified through history and the source of swelling. Ludwig's angina is caused by a fulminant bacterial infection of the soft tissue, while submandibular haematoma arises from trauma to the mandible or floor of the mouth, resulting in a collection of blood in a confined space. Based on clinical appearance, the present case depicted Ludwig's angina.

Surgical treatments or trauma are common causes of haemorrhage development that dental professionals should be aware of [6]. A warm compress promotes blood flow to a specific area by dilating blood vessels at the site of application. However, heat can exacerbate inflammation by increasing blood flow to the affected area, as observed in our case; therefore, it should be discouraged if swelling or inflammation is present. In such situations, cold compresses are more effective because they restrict blood flow to a specific area, which helps reduce pain and inflammation [7-9]. There have been reports of haematomas in the floor of the mouth following dental implant surgeries, trauma, anticoagulant-induced coagulopathy and uncontrolled hypertension [10-11]. However, in the present case, it was due to trauma followed by heat compresses.

Once the underlying cause was addressed, conservative care proved effective in reducing the degree of swelling. The patient's symptoms were effectively resolved with our cautious approach to managing the situation.

CONCLUSION(S)

The patient presented with diffuse swelling and discolouration, which exacerbated due to warm compresses following trauma. The authors managed the case with a conservative approach, as oral haemorrhage and haematomas have the potential to be lethal if neglected. Accurate diagnosis and early treatment should be key to management.

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