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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/15375
DOI URL: http://dx.doi.org/10.21474/IJAR01/15375

RESEARCH ARTICLE

HEMATOMA OF THE CHIN FOLLOWING TRAUMA - CASE REPORT WITH REVIEW OF LITERATURE

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Manuscript Info

Manuscript History
Received: 10 July 2022
Final Accepted: 14 August 2022
Published: September 2022

Key words:-
Maxillofacial Injury, Hematoma, Evacuation

Abstract

Trauma is one of the leading causes of death and maxillofacial injuries are more common in Road traffic accident. Post traumatic hematoma is more common and a self limiting one. Hematoma in maxillofacial injury following an RTA is usually associated with fracture of facial bones. It occurs mainly due to breach in periosteum and osseous bleeding from fractured bone segments. Here we present a case report of expanding post traumatic hematoma following RTA with no associated fractures and its management.

Introduction:-

Hematoma is described as an accumulation of blood under the lipocutaneous tissue of skin (Nimatu J III 2005) Hematoma following maxillofacial injury is usually associated with fracture of the facial bones. This is due to the extravasation of blood from marrow into the tissue spaces. In this case report we present a case of an expanding hematoma of chin following RTA and it is not associated with fracture of facial bones, a rare situation considering the nature of injury and age of the patient which was later managed by evacuating the hematoma.

Case Report:

A 35 year old male patient reported to our hospital with a complaint of pain and swelling in the chin following road traffic accident [RTA]. History reveals that patient developed a bluish discolored swelling after 8 hours of RTA. Initially it developed as a small one and gradually increased its size to attain the present size.

On clinical examination, 7 x 6 cm [approx] sized bluish discolored, firm and tender swelling evident in the chin extending from lower lip to the lower border of mandible. Intra oral examination reveals obliterated labial and buccal vestibule with sutures [done elsewhere] evident in vestibule from 42-35 region. Sublingual hematoma was ruled out. An Orthopantamogram was taken to rule out associated facial bone fractures. [Figure 1 a. Preoperative picture; b. Preop OPG] On correlating all the clinical findings and radiographic investigation, diagnosis of hematoma was made and planned to evacuate it. Routine blood investigations were made to rule out bleeding disorders. Under local anaesthesia, sutures were removed in relation to 35-42 region and hematoma was evacuated by blunt dissection and bi-digital compression [Figure 2]. Suturing done, compression plaster placed and intravenous antibiotics were administered to prevent infection. Postoperatively, uneventful healing and complete resolution of hematoma was noted. [Figure 3]

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Figure 1:-

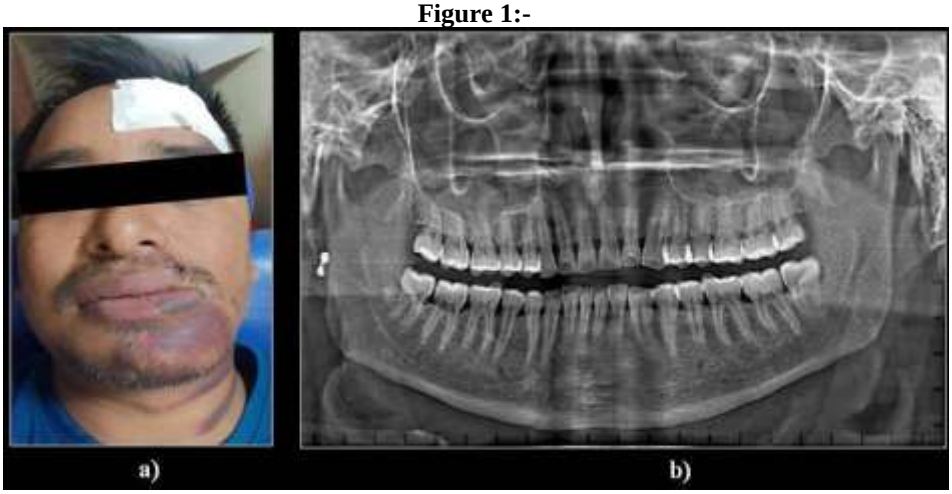


Figure 2:-

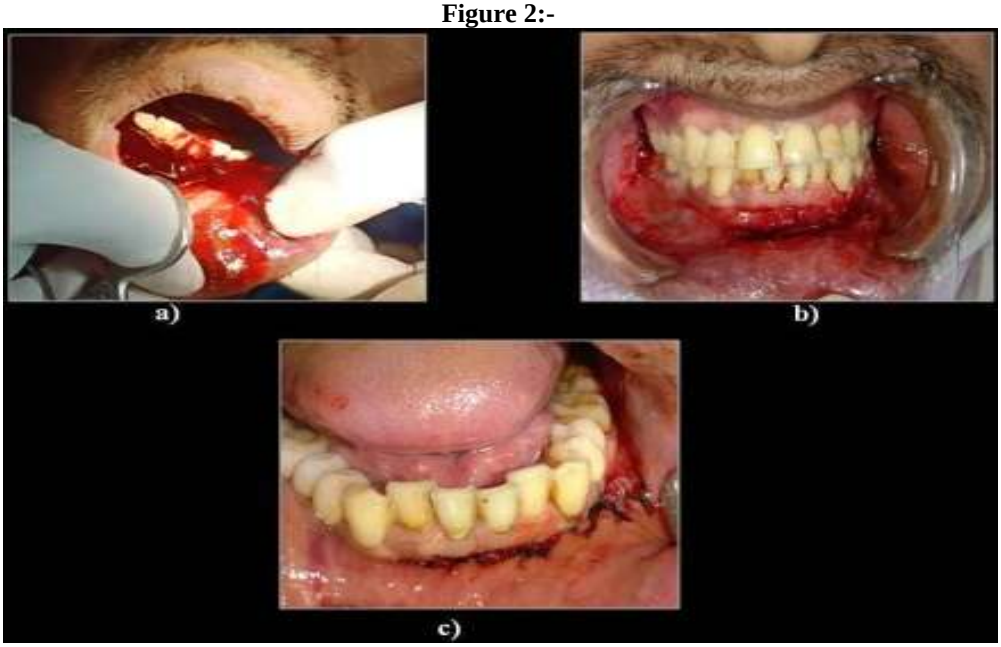
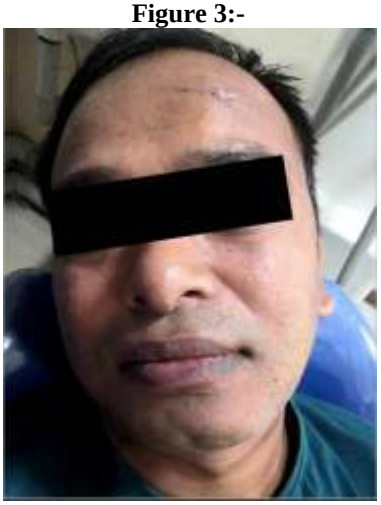


Figure 3:-



Discussion:-

The term hematoma denotes an accumulation of clotted extra-vasted blood in closed tissue spaces. It is also described as a localized collection of coagulated and solidified blood from injured blood vessels mainly due to trauma or any other pathology (Shuker 2016; Jin Ho Yan 2017). Injury to external carotid artery [ECA], internal carotid artery [ICA], internal jugular vein [IJV] and its branches results in hemorrhage and produces hematoma in head and neck region (Shuker 2016). A detailed and tailored medical history of patient including hematological disease, liver disease, coagulopathies, intake of anticoagulant, alcohol intake and nutritional status has to be recorded before management (Martyn King 2017)

Post-traumatic hematoma further classified as major hematoma and minor hematoma. Hematomas eventually may results in localized infection, poor wound healing and necrosis if not treated at appropriate time. Airway compromise results when rapidly expanding hematoma involving sublingual space and deep spaces of neck. Major hematoma requires an emergency management and care as it results in devitalization of lipo-cutaneous tissue. Devitalization of tissue occurs due to the pressure exerted by hematoma over the underlying blood vessels resulting in an arterial venous occlusion. Tissue necrosis due to venous congestion [bluish tinge] (Rees TD 1978) is more common than arterial ischemia [intense pallor] within 48 hours. Venous hematomas are usually self limiting whereas arterial hematomas are expanding in nature. Other complications were respiratory distress, hyper pigmentation of skin and neuropraxia (Rees TD 1973; Rees TD 1994)

Minor hematomas (seromas) are smaller collections of blood or serum. These hematomas are more common than arterial hematoma and can be managed by aspiration using 18 gauge needle or will resorb with massage or spontaneously without treatment.

Unilateral sudden-onset of pain with swelling and ecchymosis is usually an indicative of expanding hematoma. Expanding hematomas develop within first 12- 24 hours of trauma or surgery (Kamer 2000). Kamer and Song et al reported the development of hematoma between 1.5 and 10 hours following surgery (Kamer 2005). Rees et al described the occurrence of hematomas at 2, 4, and 5 days, In our case report also hematoma was developed within 12 hours following trauma (Rees TD 1973).

Jones and Grover observed hematoma in the sub–superficial musculoaponeurotic system (SMAS) layer and hematoma deeper to this layer is probably lower due to the tamponade effect (Jones BM 2005). Suggested etiopathogenesis in the formation of major hematoma following facial surgery or trauma is when an artery is transected, it undergoes vasospasm and retracts. As this phenomenon reverses (possibly hours later), the vessel can again bleed. These mechanisms can be influenced by intra arterial blood pressure. An elevated intra-arterial pressure results in effusion of blood into the surrounding soft tissues. Based on the compactness and density of affected tissue, the size of hematoma varies and continues to expand till the pressure of the tissue and the pressure within the vessel equalize (Biocic J 2018).

Treatment option for post-traumatic hematoma can be categorized into conservative and surgical management (Niazi TK 2016; Jin Ho Yan 2017). Conservative management includes: i) application of pressure dressing at site for atleast 8 hours, ii) application of ice packs for first 24 hours, iii) application of warm packs for next 24 hours, iv) avoid aspirin or any anticoagulant medication for 72 hours and v) proteolytic enzymes.

Surgical management of expanding hematoma includes coagulation of offending bleeder vessels and evacuation. Hematomas can be successfully evacuated by stab incision at dependant area within the resting skin tension lines and removing the sutures and surgery (Rees TD 1978). The first therapeutic option is to perform a bidigital compression followed by insertion of tamponades; thermocoagulation or application of hemostatic agents (Shuker TS 2016; Schiegnitz E 2017). In addition to this, measures to reduce hypertension / anxiety have to be followed. Depending on the amount of the hematoma and the involved deep spaces, an extraoral drainage is prepared (Schiegnitz E 2017). George chami et al described a simple and safe technique similar to liposuction for managing traumatic subcutanoues hematoma (Chami G 2005). Jin ho Han et al administered sub cutaneous injection of hyaluronidase (1500 IU) for hematoma management (Jin Ho Yan 2017). No complications were reported in abovc mentioned techniques. Postoperatively, intravenous antibiotics may be administered as prophylaxis for infection (Schiegnitz E 2017).

Conclusion:-

Hematomas require an early recognition and immediate management due to its devasting and life threatening complications like airway compromise, infection, necrosis etc. Detailed and careful clinical examination, radiographic investigations supplemented with appropriate hematological investigations is mandatory for all patients presenting with an expanding post traumatic hematoma.

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