

Traumatic Intracranial Frontal Extradural Hematoma Associated with Orbital Subperiosteal Hematoma.

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Abstract

Intracranial extradural hematoma (EDH) is a frequent lesion but simultaneous occurrence of EDH with orbital subperiosteal hematoma following head injury is a rare event. We report a 22 year old male who sustained head injury during road traffic accident. Glasgow coma scale was 13/15 on arrival and he had left orbital ecchymosis & subconjunctival hemorrhage. CT revealed left frontal extradural hematoma with associated orbital subperiosteal hematoma. No bone fracture was seen. The patient had good clinical recovery following surgical evacuation of the hematomas.

Keywords: head injury, frontal extradural hematoma, orbit, subperiosteal hematoma.

Introduction

Intraorbital hematoma is an uncommon entity, usually associated with ophthalmologic procedures, coagulation disturbances, or trauma. Post traumatic orbital subperiosteal hematoma is rarely reported in the literature and simultaneous occurrence of intracranial extradural hematoma (EDH) with orbital subperiosteal hematoma is even rare. There can be associated orbital roof fracture. We report a rare case of post traumatic simultaneous occurrence of intracranial frontal EDH with orbital subperiosteal hematoma in a 22 year old male without associated bony fracture.

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Case Report

A 22 year old male was brought to the casualty following road traffic accident. Glasgow coma scale was 13/15 on arrival and he had left orbital ecchymosis and subconjunctival hemorrhage. Vision in both eyes was intact and fundus examination revealed no abnormality. Limited superior gaze was observed in left eye. CT scan of brain and orbit was performed which revealed a large intracranial frontal EDH on left side and associated ipsilateral subperiosteal hematoma in the superior wall of the orbit causing downward displacement of the globe (Fig 1 & 2). No fracture was seen. No continuity between these two hematomas was observed. The patient had a good clinical recovery following surgical evacuation of the hematoma.

Discussion

Orbital hematomas are classified by Landa¹ as either intraorbital or subperiosteal.

Subperiosteal hematoma can be spontaneous or traumatic in origin². These hematomas develop between the bone and separated periosteum in the orbital roof. This usually occurs as a result of direct rupture of subperiosteal blood vessels or as an extension of a subgaleal hematoma³. The frontal bone forms the largest continuous concave bony orbital surface, and the orbital periosteum is not firmly adhered to the bone. The attachment is stronger along suture lines between the bones forming the orbit⁴. In our case also the hematoma was located at the roof of the orbit.

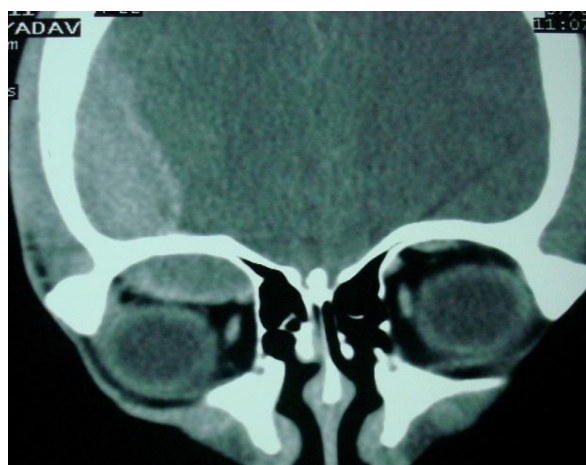


Figure 1: CT scan brain & orbit (coronal section) showing left frontal EDH and orbital subperiosteal hematoma causing downward displacement of the globe.

Subperiosteal hematoma of the orbital roof occurs almost exclusively in children or young adults. They are less likely to occur later since the periosteal bony connection may grow firmer with age³. Age of the patient in our case was 22 years.

CT signs of subperiosteal hematoma include (a) sharply defined, high attenuation mass (blood density) with broad base abutting the superior orbital roof (b) inferior displacement of the orbital contents, and (c) optic nerve stretching. The differential diagnosis includes neoplasm and inflammation. However, when the clinical presentation is combined with the CT, a diagnosis should be easily established³.

Chronic hematic intraorbital cyst can result from undiagnosed or untreated intraorbital hematoma⁵.



Figure 2: CT scan of orbit (axial section) showing subperiosteal hematoma in the superior part of left orbit.

References

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