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CASE REPORT

Development of contralateral extradural hematomas after evacuation of primary one

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ABSTRACT

The occurrence of bilateral extradural hematomas (EDH) is an uncommon consequence of closed head injuries. Incidence of bilateral EDH has been reported in various studies ranging from 2 to 25%. Bilateral EDH may develop simultaneously or second EDH develops few hours after first one. Development of second EDH after evacuation of primary one is rarely seen. We are reporting one such case. Awareness of this entity is required to detect such cases as timely intervention gives an excellent result like an acute EDH.

Key words: Delayed extradural hematomas

Case Report

A 45-years-old male patient came to our casualty 4 h after road traffic accident. On initial evaluation he was unconscious with vitals stable, GCS was E 2 V 2 M 4, pupil RT Constricted sluggishly reacting to light LT normal size and normally reacting to light without long bone fracture and chest or abdominal injury. CT scan of brain reviled EDH over LT parietal area with mass effect and diffuse brain oedema [Figure 1]. LT parietal trephine craniotomy and evacuation of EDH was done. Underlying dura was found to be tense. Keeping CT scan finding of diffuse oedema of brain and intra operative finding of tense dura in mind bone piece was not put back and was preserved in fat layer of abdomen. Post operatively mannitol prescribed. Patient didn't show expected recovery. Repeat CT scan of brain done 2 days after surgery. To our surprise we found second EDH in contra lateral side with mass effect [Figure 2]. After evacuation of second EDH patient improved and discharged with GCS 14/15.

Discussion

After head injury, acute bilateral epidural hematomas are produced when duramater is separated at two locations by a single directed impact. A lateral force can strip the duramater at the side of impact by the inward and outward bending of the skull as described by Bell.[1] Guardjian has reported that the dural stripping at the apposite side may occur due to the motion of the skull, further aggravated by decrease in intra cranial pressure found at the antipode of the compression force.[2]

There are different reasons described in literature contributing to development of delayed EDH such as:[3] 1. Post surgical decompression; 2. Patient reviving from low blood presser; 3. Mannitol prescription; 4. Hyperventilation; 5. CSF leak; 6. Pentothal use. While retrospectively analyzing our case we found that removal of tamponade effect of first EDH by removing blood clot and post operative mannitol prescription may be the possible cause behind second EDH. Ideally a larger decompresive craniotomy is justified than a small trephine craniotomy.

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Figure 1: Axial CT scan of brain showing, EDH over LT parietal area with mass effect and diffuse brain oedema

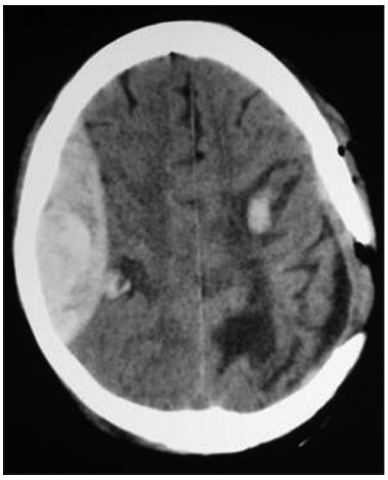

Figure 2: Axial CT scan of brain taken two days after evacuation of first EDH showing, new EDH over contralateral side

Conclusion

If a post operated case of EDH doesn't show expected recovery repeat CT scan should be advised to detect possibility of delayed EDH on contra lateral side. We further advise that control CT scan should be done in first 24 h after surgery in all patients and not only in those that has a poor outcome. Patients with GCS less than eight should have their intracranial pressure monitored to detect rise in intracranial pressure early.

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