

Stab Brain Injury: A Case Report

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Abstract:

Penetrating foreign object rare cause of brain injury, and have high mortality and morbidity rate among traumatic brain injury, surgery and management of this patient challenged and need high experience health care system, we introduced 29 years old man admitted with stab brain injury to emergency department.

Key words: penetrating trauma, stab injury, knife

Introduction

Stab penetrating brain injury is a rare condition of head trauma with high mortality and morbidity rate, [1] severity of injury depend on site and depth of entrance and involvement of major vessel and eloquent cortex, Nevertheless, only few case reports are available describing the management of similar traumatic head injuries [2], we report a 29 years patient with a stab in right frontal.

Case presentation

A 29 years old man in street fighting crashed with knife stab wound in head region, patient admitted to emergency department of Emam Khomeini hospital Urumia, Iran, with low level of conscious (GCS=4) and knife in right frontal penetrating skull and brain, the position of knife in right frontal 2 cm lateral to midline and 2.5 cm anteriorly to coronal suture all blade in cranial and only less than 1cm of blade was seen, after resuscitation, GCS=4t, intubate without any sedation pupil reactivity poor and vital sign was stable, we take the brain computed tomography (CT) with bone window, CT angiography and skull X ray also done in emergency room, knife completely penetrate right frontal lobe with micro hemorrhage less than 5mm diameter, midline shift and mass lesion not seen, no major vessels involvement not seen, ependymal surface intact not any major sinus disrupted (Figure 1-4), patient go under surgery with general anesthesia and island craniotomy was done around the stab and slightly pull up the stab with bone, Dura matter bone and soft tissue around was debrided and irrigated, and sutured patient go under barbiturate coma standard protocols in intensive care unit for 48 hours, follow up CT no evidence any hematoma

and mass lesion after 5 day patient slightly awake and then extubated neurological examination was normal all muscle force was normal patient discharged after ten days and control CT 3 week after accident was normal and CT angiography not report any aneurysm, patient advised for follow CT angiography after 3 week and psychological consult but he not get back to our clinic for any follow up.

Discussion

Traumatic brain injury was major life threatening condition specially stab wound, most patient if survived have major neurological deficit based on severity and location of injury some author emphasis on depth of penetration and type of penetration object [3], head CT scan almost available and highly selected modality to recognize and analyzed various aspect of trauma and can help to planning the surgery [2], preoperative CT angiography also was important to recognize of vessels involvement and situation of them to stab, if any vessel was damaged or involved in rout of entrance surgeon should be consult with vascular surgeon and use vascular bypass or repair technic [4], post operation mostly important, all patient needed antibiotic and anti-epileptic drug at least 10 days and close observation of intracranial hypertension, harsh and wide debridement of brain tissue should be avoided because of iatrogenic neurological deficit [5] but we advised irrigation with large volume of gentamycin reached serum, Removal of the penetrating object should retrace the original trajectory of the knife. During extraction, care must be taken not to produce any rocking movements which may be transmitted to the tip of the knife plan of surgery should be individualized for each patient and sometime need multidisciplinary team [6], all authors

advised object extraction should be in operation room and attempt to remove of them in emergency make disaster and completely avoid .

brain stab wound really rare and management of this patient need highly experience team and high tech equipment, multidisciplinary approach mostly can helpful and follow up of patient especially first 6 week most important .

Conclusion



Figure1: before operation

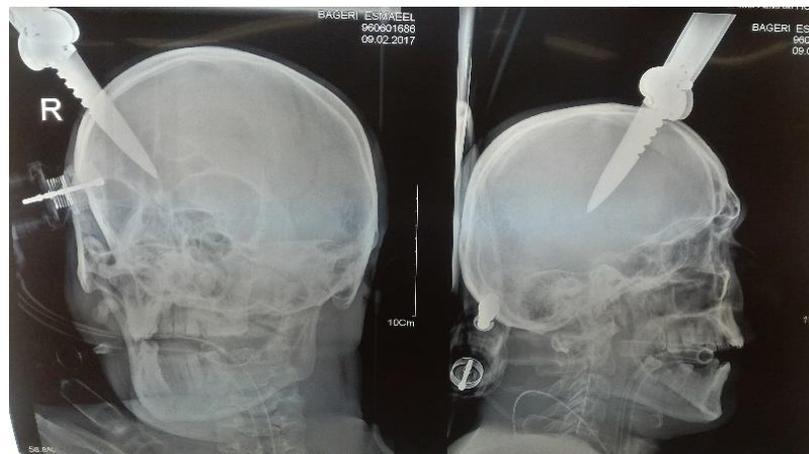


Figure 2: skull X ray: depth of penetration

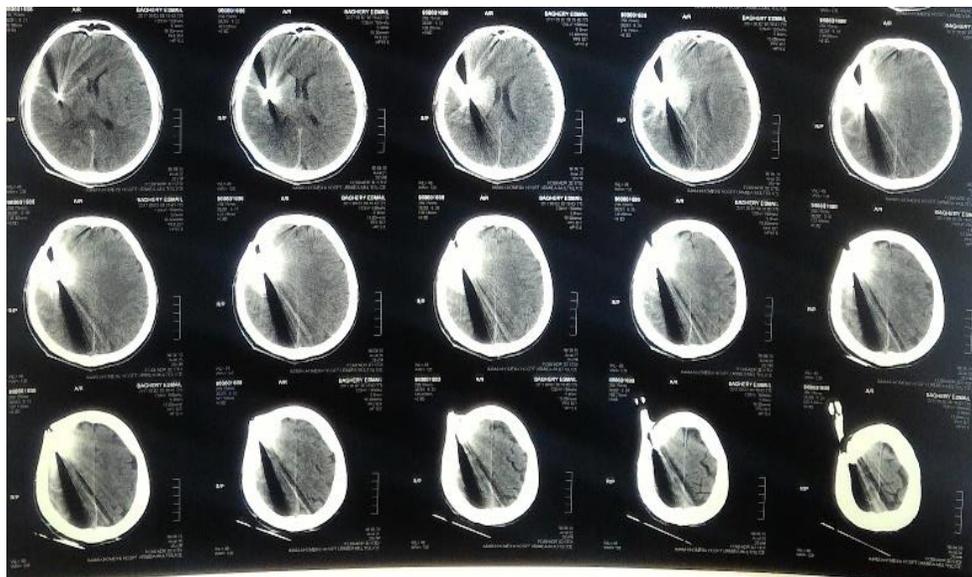


Figure 3: axial brain CT scan entrance and location of the stab



Figure 4: Object after extraction

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