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## Penetrating brain injury: A case report

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**Background:** Penetrating traumatic injury remains one of the most devastating and lethal forms of trauma. Prognosis is generally poor and, for those who survive long enough to make it to the hospital, the management of penetrating brain Injury presents complex challenges to medical and surgical providers in the civilian sector. A prognosis in such cases is based mainly on an initial score on the Glasgow Coma Scale (GCS). According to the literature, the mortality rate among patients with initial GCS ranging from 3 to 5 points is very high; up to 98.5%. The treatment in an ICU which is focused on decreasing the risk of secondary brain damage can significantly improves the prognosis and final outcome.

**Case Description:** A male of 40-year-old came up with low level of unconsciousness after traffic accident bus versus truck with iron penetration in the right eye to left head. Patient with spontaneous and symmetrical breathing, unstable hemodynamic with GCS 123, isochoric pupils and positive light reflex in the left eye, corneal reflex (-/+), local status of this patient is penetration of iron in right orbital region to left parietal, length: 30 cm and diameter 3 cm.

**Conclusion:** We choose trepanation decompression evacuation because in general, the results of trepanation in this case are excellent and show good progress from clinical pattern.

**Discussion:** Early recognition and management penetrating brain injury is essential to ensure an optimal outcome. According to the literature, the majority of PBI results from attempted suicides, assaults and accidents. Evaluate corpal, size and mechanism of injury is a key to early diagnose for the patient. During operation, care must be taken not to produce any rocking movement which may be transmitted to the tip of the instrument and removal should retrace the original trajectory of the corpal. The fundamental principles of surgical management include the prevention of early or late infection, thorough debridement of necrotic tissue and hematoma, removal of all accessible bone fragments and foreign body and meticulous closure to prevent cerebrospinal fluid fistula. Operative delay for greater than 48 hours from the time of injury dramatically increases the incidence of infection from 4.6 to 36.5%. The current case is illustrative of the importance of early surgical exploration to avoid delayed infectious, vascular and epileptic complications. The two most common complications of these injuries are infection and secondary hemorrhage.

### Biography

Wahyu Purnama Putra is a General Surgery Resident at Saiful Anwar Malang Hospital. He was trained and registered as a General Practitioner from Brawijaya University in 2014. He currently is the Director of Hayunanto Medical Center Hospital in Malang, Indonesia. His experiences included following training in ATLS, advance surgery skill and other courses in the field of emergency medicine and traumatology.

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