

Winnowing fan blade head injury

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Abstract: The farms can be a dangerous working place especially for children. Children spend most of their time there with their parents in the fields and it is where accidents happen. Approximately 200,000 children in India suffer from head injury every year and majority can be prevented. Head injury from the winnowing fan blades is rare among children and limited data is available in the literature. We present the, mechanism of injury, clinico-radiological findings, the management and preventive measures that can be taken for head injuries that occur due to the winnowing fan.

Keywords: children, winnowing fan blade, head injury prevention.

CASE REPORT

An 8-year-old boy presented to the Trauma centre of the CSMMU (erstwhile King Georges Medical University) with an alleged history of a winnowing fan blade injury accidentally while sleeping. Clinically, his admission GCS score was E3V3M5 with normal pupils. He had a compound depressed fracture underlying a contused lacerated scalp wound of about 15cms X 2cms over the left temporoparietal area (Figs 1a & b). The child underwent craniotomy with debridement of the contused brain and a primary duroplasty after excision of the bone splinters. The postoperative course was uneventful, and the patient was discharged on the eighth postoperative day in a GCS of E4V5M6 without any neurological deficit.



Fig 1(a): Scalp injury due to the winnowing fan blade[1].

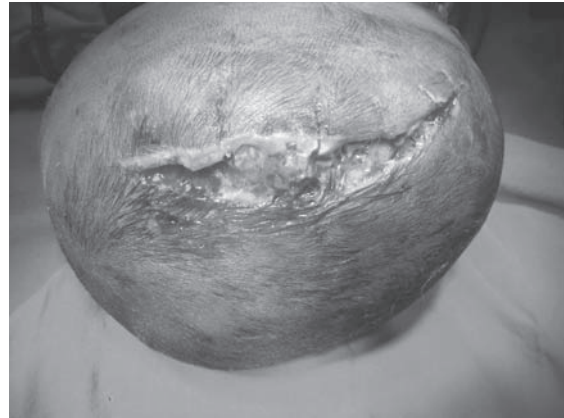


Fig 1(b): Scalp injury due to the winnowing fan blade[1].

DISCUSSION

Agriculture is the main occupation of people living in India. The agricultural implements used are not safe. Winnowing fans (Fig 2) are used to separate hay and dust from paddy¹.



Fig 2: The Winnowing Fan[1].

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These are mechanically operated fans with a handle to rotate them. These fans are unsafe as their blades are not covered. The mode of injury in adults is accidentally hitting the blade while dropping the paddy in front of the fans or bending in front. Children especially toddlers are more prone to such injuries as they play near it and are accidentally hit when the handle of the fan is rotated by one child and others are playing near it. Various injuries can occur while working in the fields¹. However, reported cases in the literature on head injury caused by agricultural fan blades are limited. The cause of fan-blade head injury in this case was potentially preventable.

A fan blade is a relatively blunt object, but can become an effective cutting edge as the fan rotates, resulting in high velocity penetrating injuries with potential hazards to the skull and brain. The severity of injury depends much on the speed of the rotating fan and the distance

of the child from the fan. Most of the accidents occurred when the children were playing without the presence of supervisory adults.

As a preventive measure, protective covering in front and back of these fans should be in place and children should be kept away from it. A detachable handle, without which the fan blades cannot be rotated, should be designed. Using appropriate equipment, maintaining safety, increasing safety awareness, combined with adult supervision, can greatly reduce the incidence and severity of such injuries.

REFERENCE

1. Pranab Kumar Nag, Anjali Nag. Drudgery, accidents and injuries in Indian agriculture. *Industrial Health* 2004; 42: 149-162.