

Penetrating Wound in the Skull by a Sharp Metal Object

Ahmad Faried, Priandana Adya Eka Saputra, Farid Yudoyono, Muhammad Zafrullah Arifin

Department of Neurosurgery, Faculty of Medicine, Universitas Padjadjaran-Dr. Hasan Sadikin General Hospital

Abstract

Objective: To describe a quite rare case of penetrating skull injury (PSI) in a 5-year-old girl caused by a pair of scissors as a neurosurgical emergency.

Methods: A craniectomy debridement with a supine position was performed and removal of the object was achieved. Intraoperatively, bleeding was able to be controlled as expected.

Results: The patient was operated and hospitalized. Physical examination revealed neurologically intact before and after the removal of the object. The patient was sent home without any neurological deficits or other complications.

Received:
March 19, 2015

Revised:
July 30, 2015

Accepted:
August 31, 2015

Conclusions: Penetrating skull injuries were interesting due to its mechanism, management and complications. Early diagnosis and appropriate treatment should result in good outcomes.

Keywords: Penetrating skull injury, a sharp metal object

IJHS. 2015;3(2):79-84

Introduction

Penetrating skull injury (PSI) is one of many kinds of neurosurgical emergencies.¹ Most penetrating skull injury cases reported were caused by gunshot wounds.¹⁻³ Other smaller fractions of such injuries were caused by sharp objects such as scissors, knives, nails, forks, and other sharp objects.⁴⁻⁸ Those injuries occur commonly in areas with thin bones, such as orbital surfaces or squamous portion of the temporal bones.⁴ PSIs are accounted as neurosurgical emergencies due to the risk of neuronal and vascular injuries, not to mention the risk for infections.^{5,7}

Case

A 5-year-old girl was sent to our center with a scissor penetrating her right temple. About 10 hours prior to admission, when she was playing with a pair of scissors in her hand, she was accidentally pushed by her friend and fell down with the scissor puncturing

her right temple. The patient was brought to a nearby hospital before transferred to our center. At admission, the patient general and neurological status was within normal limit. At visual inspection, there was a pair of scissors penetrating her right temple (Fig. 1). The scissor was firmly penetrated without any significant bleeding.

Plain X-ray showed that the scissors penetrated the skull in two points in the temporal region, about 4 cm in depth each (Fig. 2). Head computerized tomography (CT) scan did not show any clear signs of intracranial hemorrhages; the scissors and bone discontinuities were poorly visualized due to metal scattering (Fig. 3). Head magnetic resonance imaging (MRI) was not performed due to the metallic nature of the scissor. After completing the necessary diagnostic tests and preoperative management, the patient was taken to the operating room for foreign object removal and debridement. The patient was put in supine position with her head slightly turned to the left. The original wound was extended into a lazy 'S' shape incision and scalp flap was retracted (Fig. 4b). After the flap was raised, the scissor was found penetrating the bone and surrounding tissue in two points. A craniectomy was performed, using two burr holes and bone rongeurs, surrounding the object for better exposure.

Correspondence:

Ahmad Faried, Department of Neurosurgery, Faculty of Medicine, Universitas Padjadjaran-Dr. Hasan Sadikin General Hospital
Jl. Pasteur No. 38, Bandung, Indonesia
e-mail: farid.fkupa@gmail.com