

## Unusual penetrating preauricular injury by firework rocket

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### Case report

A 36-year-old young man presented to the emergency department (ED), on Chinese New Year's eve with a stray firework rocket penetrating over the right preauricular region (Fig. 1). He was a bystander on a personal fireworks display. A conical-plastic rocket with attached wooden stick was launched from the ground, which got out of control immediately, and veered horizontally into the crowd. There was not enough time to dodge the flying rocket. A facial computed tomography (CT scan) demonstrated a hypodense linear foreign body entering at the right preauricular area, and tunneled subcutaneously through the superficial parotid region (Fig. 2). Surgical debridement and repair were performed that showed a  $0.8 \times 0.8$  cm wound at the right preauricular area, with a stick inside and 4 cm in penetration to the subcutaneous layer just beyond the ear lobe. In addition, a small inverse Y-shaped laceration at the right ear lobe, and a 8-cm pocket at the postauricular area were also noted. After surgery, he was discharged with an uneventful recovery.

### Discussion

The use of fireworks for celebrative purposes is associated with firework casualties. Victims are often male, young and bystanders [1]. Fireworks injuries usually manifest as an explosive or a burn injury. Extraocular penetrating injuries are extremely uncommon [2]. The extent of the injuries is related to the mass, shape, weight of the explosive powder, and the distance traversed. Penetrating wounds by the fireworks associated with the pneumomediastinum and the abdominal visceral injury have been reported previously [2, 3]. The CT scan has been shown to be useful in the evaluation of the severity of penetrating trauma and the localization of retained foreign bodies. The CT imaging appearance of the wooden foreign bodies is variable. The attenuation of a retained wooden foreign body varies in relation to the content of air and fluid in the interstices of the wood [4]. Dry wood, with a high air content, mimics a gas

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**Fig. 1** Physical findings of the patient on admission



**Fig. 2** Facial CT scan shows a hypodense linear foreign body *arrow* lodged at the right preauricular region

collection. Fireworks trauma should be preventable. Using restrictive fireworks legislation is a proven method to greatly reduce the trauma incidence rates [1].

**Conflict of interest** None.

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