Apparent Inadequate Fixation Due to Improper Radiographic Angulation

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Abstract Computed tomography is shown as an alternative important aid for diagnosis and postoperative evaluation in the maxillofacial region.

Keywords Zygomatic fracture · Radiograph · Fixation · Maxillofacial · CT scan

To the Editor

A 52-year old man was referred to the Santa Casa Araraquara Hospital, after an automotive accident on a road, in which the truck that the patient was driving collided with a tree. The patient was admitted to the hospital in general regular state, presenting open fractures of his right ankle and left knee and a closed tibia fracture. There were no skull fractures and no cervical spine injuries, but there was a great large lacerating scalp and multiple cut, blunt injuries to the face.

After stabilization of the overall clinical condition, a more detailed clinical examination revealed that there was a loss of anteroposterior projection of the right zygomatic

bone with bone discontinuity at the infraorbital ipsilateral rim with best indication for surgical treatment.

The treatment consisted of bone reduction of the fractures and fixation with one plate of 2.0 mm system in the fronto-zygomatic area and another plate “L” shape in the zygomatic pillar by intraoral approach; both plates sustained by four screws of 6 mm. As usual, a postoperative radiograph was requested and a strange image appears with apparent wrong fixing in the fronto-zygomatic area (Fig. 1). At the same time, a Waters view radiograph was also performed (Fig. 2).

Then, we requested a CT scan to clarify the doubt (Fig. 3) and proved that it is likely a radiopacity difference in radiography, associated with a contrast difference that enabled a misinterpretation, just as in another letter published [1]. In addition, as shown in this clinical case, angulation of the radiographic beam is important at the time of the examination, mainly to avoid errors.

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Fig. 1 Postoperative radiograph showing that apparently the screws are off the bone

Fig. 2 Postoperative radiograph, Waters view

Fig. 3 3D reconstruction, front view, showing the correct fixation of the fracture

It is important to care for radiographic interpretations, and even computed tomography is an expensive imaging test, it is more reliable.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Human Rights Statement All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964 and later versions.

Informed Consent Informed consent was obtained from this patient for being in the study.

Reference

1. Wildan T, Mistry A, Patel C, Gilhooly M (2016) Apparently aberrant fixation of a fracture of the oblique angle of the mandible. *Br J Oral Maxillofac Surg* 54:1147–1148