

Letter to the Editor

Ultrasound Applications in Nasal Bone Fractures

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Nasal bone fracture is one of the most usual fractures in patients with facial trauma [1]. It constitutes one third of the cases of facial bones fractures and is more common in the males than the females [2]. Generally, younger ones are more susceptible to displaced fractures and the old people develop comminuted fractures. Almost three quarters of cases of nasal bone fractures occur between the middle third and the distal third of the nasal bone [3].

Although physical examination is the gold standard manner for the diagnosis of nasal bone fracture, but it cannot determine the convolution of the fracture [4]. Because of the high prevalence of nasal bone fracture in facial trauma, it is essential for an accurate imaging method to diagnosis such injuries. Missed diagnosis or inadequate reduction can lead to nasal deformity or other complications. Therefore, quick diagnosis of nasal bone fracture and confirmation of proper reduction is very important to prevent possible complications [5].

Prior studies show that the plain radiography was negative in one quarter of cases of patients with nasal bone fractures who needed surgical treatment [6]. Also, facial computed tomography (CT) evaluation of these patients imposes a high risk of radiation

to the patient. When comparing ultrasonography (US) with CT-scan and plain radiography, US is inexpensive, available and simple to perform, and has no risk of ionizing radiation to the patient. The diagnostic value of ultrasound as a diagnostic modality in comparison with another evaluation method for diagnosis of nasal fracture lines has been shown in previous studies [4,7]. The other advantage of ultrasound over plain radiograph is that, it can show trauma of the cartilaginous part of the nose more accurately [4]. Also, it is useful for intra-operative reduction of the fractured nasal bone and in decreasing unnecessary manipulation of the fractured site for patients undergoing local anesthesia reduction [8,9].

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