

## EDİTÖRE MEKTUP / LETTER TO THE EDITOR

### Isolated hyoid bone fracture after motorcycle collision

Motosiklet kazası sonrası izole hyoid kemik kırığı

İbrahim Toker <sup>1</sup>, Turgay Yılmaz Kılıç<sup>2</sup>, Yeşim Eyler<sup>2</sup>, Necmiye Yalçın Ocak<sup>2</sup>, Serkan Hacıoğlu<sup>2</sup>, Güllü Akbaydoğan Dündar<sup>1</sup>

<sup>1</sup>Mersin University, Faculty of Medicine, Department of Emergency Medicine, Mersin, Turkey

<sup>2</sup>Tepecik Training and Education Hospital, Department of Emergency Medicine, İzmir, Turkey

*Cukurova Medical Journal 2018;43(4):1071-1072*

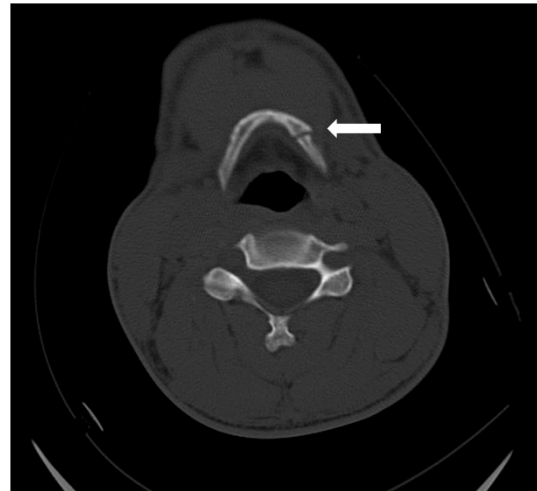
To the Editor,

Isolated hyoid bone fracture is a rare due to the location of the hyoid bone. Being relatively flexible and surrounded by the mandible and cervical vertebrae, it composes 0.002% of all the fractures<sup>1</sup>. Most enunciated cases are autopsy findings and mainly seen in hangman victims and strangulated (via hand) ones within a range of 17-76%<sup>2</sup>. Hyoid fractures by blunt trauma are extremely rare<sup>3</sup>. In our case we presented an isolated hyoid fracture caused by blunt neck trauma.

A male patient at the age of 27 has been presented to the emergency department (ED) with a motorcycle accident. The patient's vital signs on admission were a temperature of 36.6°C, blood pressure of 114/67 mm/Hg, heart rate of 91 beats per minute, and respiratory rate of 16 breaths per minute, and his oxygen saturation was 100% while breathing room air. He didn't wear a helmet during his ride. The patient had neck pain by movement.

On examination, his face was bruised, multiple abrasions were noted and a laceration was also noted on the middle of the jaw. The remaining physical examination results were normal. A cervical computed tomography (CT) was taken and hyoid bone fracture was definitely established (Figure 1). Bedside ultrasonography showed no sign of hematoma in the neck. Direct laryngoscopy performed by an otorhinolaryngologist declared the airway was briefly open and there weren't any lacerations or masses in the larynx. The patient was planned to be admitted to the hospital but he

intentionally refused it. During the follow up in the ED, analgesic drugs were given and cold compress had been applied in front of the neck. After this period, the patient, who had no active complaints, was discharged with the recommendation of Ear, Nose and Throat Diseases outpatient clinic follow up.



**Figure 1.**The hyoid bone with fracture (arrow). There was no hematoma and airway obstruction.

Hyoid bone is well-protected by the mandible. In addition to this, the hyoid makes no joints with any other bone in the body and being mobile in nature provides a strong protection from fractures<sup>4</sup>. Hyoid bone fractures are mainly related with hangman cases but literally blunt trauma, hyperextension,

Yazışma Adresi/Address for Correspondence: Dr. İbrahim Toker, Mersin University, Faculty of Medicine, Department of Emergency Medicine, Mersin, Turkey. E-mail: ibrahimtoker9@gmail.com  
Geliş tarihi/Received: 31.05.2017 Kabul tarihi/Accepted: 30.07.2017

gunshot wounds, motor vehicle collisions, induced vomiting and cervical multitrauma mechanisms are present<sup>5</sup>. In a study which postmortem cases have been excluded, motor vehicle collisions are found to be the most frequent reason via a rate of 37%<sup>6</sup>. Fractures related with the helmet belts are noted twice in the last 10 years, which may seem to be an increasing reason for this kind of injury<sup>3,4</sup>. Our case had no story of wearing a helmet.

Hyoid bone fractures may flee from notice because of being asymptomatic or being one of multiple distracting injuries<sup>4</sup>. Our case had an isolated hyoid fracture with pain in neck movement. Hyoid fractures can be detected by lateral cervical X-ray . But head and neck CT scans provide more detailed view and also display other affined injuries<sup>7</sup>. Except X-ray and CT; in some cases the diagnosis can be made via direct laryngoscopy, naso-endoscopy and even with surgical inspection<sup>5</sup>. Once hyoid fracture has been detected, a direct laryngoscopy must be applied to the patient in order to assess the airway opening and the presence of any laryngeal laceration<sup>4</sup>. In some selected cases Valsalva maneuver can/must be applied in order to not to miss a deformity of larynx<sup>5</sup>.

All patients with the diagnosis of hyoid fracture must be followed up at least 48-72 hours by means of complications which may necessitate surgery<sup>1, 2</sup>. Most cases do not require surgical treatment so conservative therapy counts as the keystone. Elevation of the head and neck discontinuing oral

dishes, prohibition of speech, cold, pain killers and systemic steroids (if necessary) are the milestones of therapy<sup>1,4,5</sup>. Our patient had benefit from conservative therapy too. In this article, we presented a rare case that emphasizes the importance of diagnostic evaluation and observation after blunt neck trauma.

## REFERENCES

1. van Dongen MJ, Falger-Veecken SN. The risk of a bicycle helmet: hyoid bone fracture. *Ann Emerg Med.* 2016;67:145-6.
2. Iacovou E, Nayar M, Fleming J, Lew-Gor S. A pain in the neck: a rare case of isolated hyoid bone trauma. *J Surg Case Rep.* 2011;2011:3.
3. Erdogan B, Erdogan MO, Colak S, Kibici O, Bozan K, Alper B. An isolated hyoid bone fracture caused by blunt trauma to the neck. *J Pak Med Assoc.* 2015;65:1233-4.
4. Erdogan MO, Kosargelir M, Yorulmaz R, Meric K, Erdogan B. Isolated hyoid bone fracture due to blunt trauma: case report. *Ulus Travma Acil Cerrahi Derg.* 2013;19:282-4.
5. Porr J, Laframboise M, Kazemi M. Traumatic hyoid bone fracture: a case report and review of the literature. *J Can Chiropr Assoc.* 2012;56:269-74.
6. Ramchand T, Choudhry OJ, Shukla PA, Tomovic S, Kuperan AB, Eloy JA. Management of hyoid bone fractures: a systematic review. *Otolaryngol Head Neck Surg.* 2012;147:204-8.
7. Jehng YM, Lee FTT, Pai YC, Choi WM. Hyoid bone fracture caused by blunt neck trauma. *Journal of Acute Medicine.* 2012;2:83-4.