ABCResearch

Arch Basic Clin Res 2020; 2(3): 104-7 • DOI: 10.5152/ABCR.2020.01

Case Report / Olgu Sunumu

Iliopsoas Muscle Hematoma Due to Traumatic Lumbar Vertebrae Transverse Process Fracture As A Cause of Unexplained Drop in Haemoglobin

Hızlı Hemoglobin Düşüklüğüne Neden Olan Travmatik Lomber Vertebra Spinöz Proçes Kırığına Bağlı Iliopsoas Kas Hematomu

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Cite this article as: Çakır T, Kayacı S. Iliopsoas Muscle Hematoma Due to Traumatic Lumbar Vertebrae Transverse. Arch Basic Clin Res 2020; 2(3): 104-7.

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ABSTRACT

To the best of our knowledge, there has been no reported case of severe decrease in hemoglobin levels due to iliopsoas muscle hematoma (IPH). Here we present a case of a severe decrease in hemoglobin levels due to traumatic IPH. A 14-year-oldboy was admitted to an emergency room after he met with a tractor accident. Approximately 6 hours later, the patient's condition worsened; his face started becoming pale, he began to go unconscious, and his systolic blood pressure decreased. Furthermore, no weakness, abnormal reflexes, or numbness of all extremities was observed. The hemogram and hematocrit levels of the patient were 6.1 g/dL and 20.3%, respectively. Moreover, no hemorrhagic focus was detected. Therefore, it was concluded that IPH was the only plausible cause of the decrease in hemogram level. Subsequently, conservative treatment was followed, and the patient recovered.

Keywords: Haemoglobin, hematoma, liopsoas, trauma

ÖZ

Bildiğimiz kadarıyla literatürde travmatik iliopsoas kası hemorajisinin neden olduğu ciddi hemoglobin düşüklüğü şeklinde bir vaka yoktur. Burada sunduğumuz 14 yaşındaki çocuk hasta traktör kazası sonrası acil serviste sırt ve bel travması şikayet ve bulgularıyla görüdü. Travmadan yaklaşık 6 saat sonra acil servisteki takip anında hastanın durumunda kötüleşme, kan basıncında düşme, ayrıca tüm ekstremitelerde zayıflık, ve uyuşma gözlendi. Hemogram ve hematokrit seviyeleri sırasıyla 6,1 g/dL ve %20,3 idi. Hastada bu hemoglobin düşüklüğünü açıklayacak başka bir odak tespit edilemedi. Bu nedenle iliopsoas kası hemorajisinin tek makul neden olduğu düşünüldü. Daha sonra konservatif tedavi kararı alınarak, hasta takip edildi ve şifa ile taburcu edildi.

Anahtar Kelimeler: Hematom, hemoglobin, liopsoas, travma

INTRODUCTION

Lumbar vertebrae transverse process fractures are commonly thought as minor injuries compared with body, pedicle and lamina fractures (1). These fractures are often related to direct trauma or psoas muscle avulsion such as hyperextension of the hip joint during trauma (2, 3). In this present case, there was separated lumbar transverse process fracture and high volume ilio-psoas hematoma (IPH) due to tractor accident as falling over the tractor while it is going. Then unexplained hemoglobin decrease which subsequently limited itself was seen in the patient within the first few hours and no other bleeding focus other than IPH could be identified. In literature, it is mentioned that lumbar vertebrae transverse process fractures following high-energy traumas can accompany to intra-abdominal, genitourinary and retroperitoneal injuries (1, 4). As it is not very common, the psoas hemorrhage may be overlooked. That's why we want to present our case experience. According to us, serious haemoglobin decrease due to traumatic IPH has not been mentioned yet in the literature.

CASE PRESENTATION

Four-teen-old male patient admitted to emergency room with lumbar region trauma after tractor accident. It was reported by his family that there was no loss of consciousness at the time of the accident. When we saw the patient

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Submitted / Geliş Tarihi: 04.01.2020
Accepted / Kabul Tarihi: 06.04.2020

in the emergency room, the patient was conscious, alert and oriented to time and place. His Glasgow Coma Scale (GCS) score was 14 (E4V5M5). His vital signs were within normal limits. There was no motor function or sensory loss in all four limbs and deep tendon reflexes were normally elicited. There were bruises on the patient's waist (Figure 1) and initial examination revealed diffuse right lateral lumbar pain.

Patient's haemoglobin level (13.3 gr/dL), hematocrit level (40.8%), white blood cell count, activated partial tromboplastin time (aPTT) and INR values were within normal ranges. The computed tomography (CT) scan of the abdomen revealed L4 right transverse process dislocation fracture with hematoma of the right ilio-psoas muscle and the widening of the retroperitoneal space and anteromedial displacement of the psoas muscle (Figure 2a, b).

It was decided that the patient should be under observation in the emergency room for a while and supplemented with intravenous fluids and analgesics. After about 6 hours, the patient began to worse in the emergency room, his face began to pale, he began to fall asleep and a decrease in systolic blood pressure was observed. No weakness, no abnormal reflexes and no numbness of all extremities were observed. Then the patient was admitted to intensive care unit. In the intensive care unit the hemogram level was 6.1 gr/dL and the hematocrit level was 20.3%. Activated partial thromboplastin time, prothrombin time and other routine blood tests were reassuringly at normal levels. According to these values blood transfusion was required; 3 units of erythrocyte suspansion and 3 units of fresh frozen plasma were given. Abdominal and thorax CT were performed. No hemorrhage focus was detected in abdomen and thorax. It was concluded that the only source of hemogram loss was the IPH. Pediatricians were also informed. And within their knowledge plasma activity levels of factor VIII and IX were assessed and they were found in normal levels (both levels were >99%). Therewith conservative treatment was followed. The patient had a rest in bed for 7 days and analgesic drugs were given. Hemoglobin and hematocrit levels (10.9 gr/dL; 32.9%) remained stable at the end of 7 days in intensive care unit comma. And at the two-months follow-up, the patient was entirely asymptomatic and lumbar CT and magnetic resonance imaging showed that the hematoma had disappeared (Figure 3a, b).

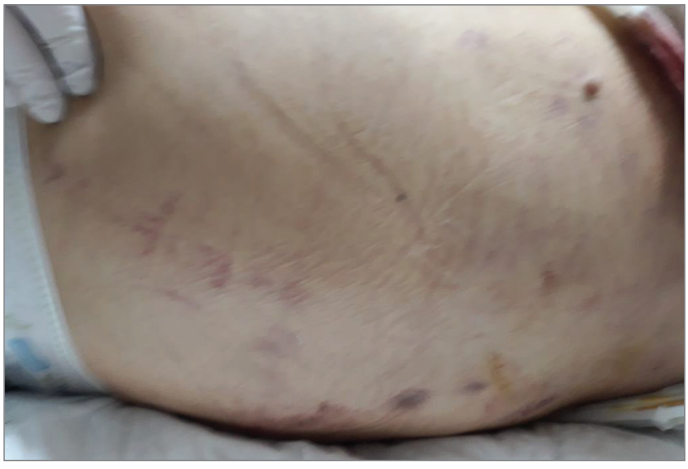

Figure 1. Image of the waist of the patient immediately after trauma

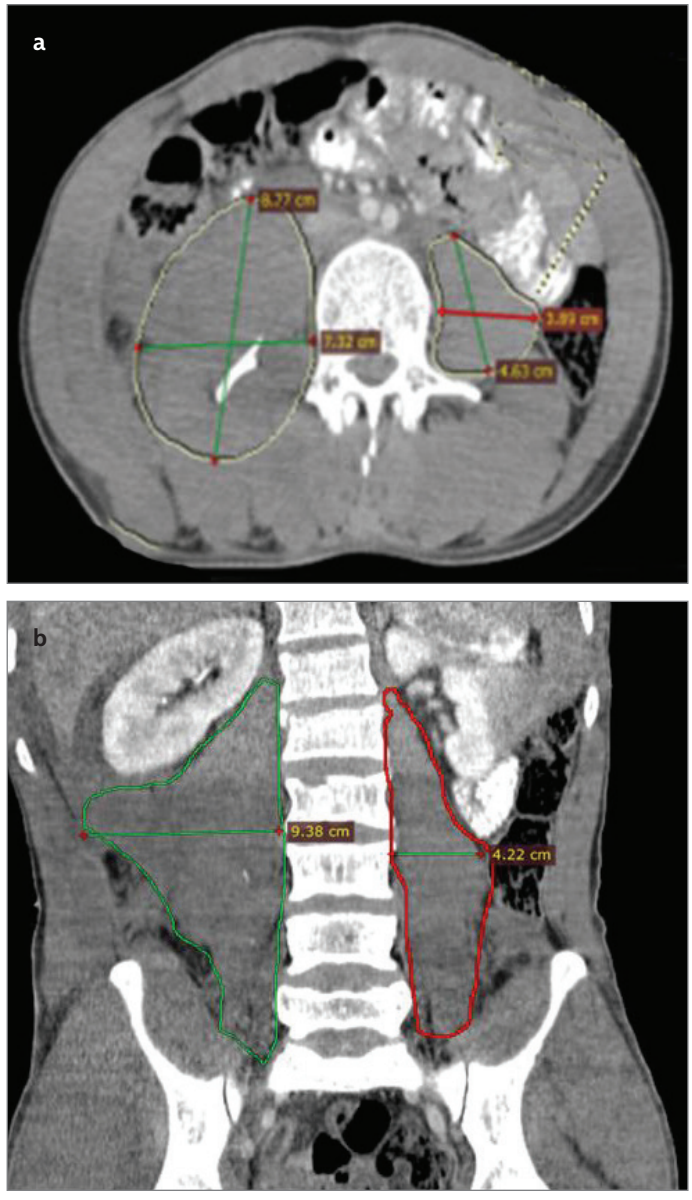

Figure 2. a, b. (a) CT scan image immediately after trauma: L4 right transverse process dislocation fracture with hematoma of the right ilia-psoas muscle, muscle volume increased (right ilio-psoas muscle; 8.77 cm X 7.32 cm, left iliopsoas muscle 4.63 cm X 3.93 cm (b) Abdomen CT image immediately after trauma: Increased ilıio-psoas muscle volume was noted

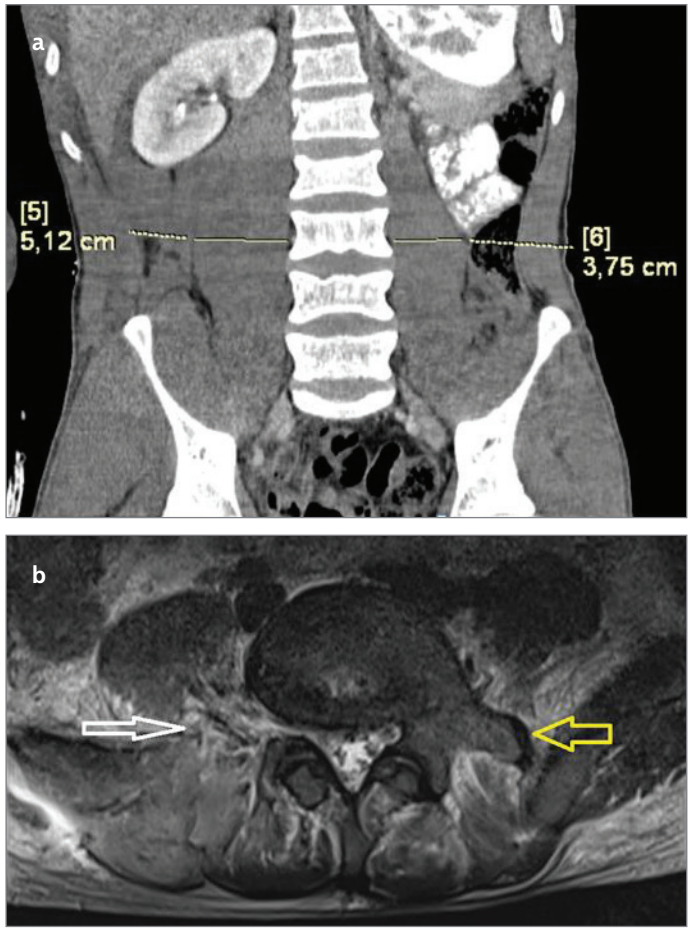

Figure 3. a, b. (a) CT image: 2 months after the trauma; right IPH dissappeared, borders of the right ilio-psoas muscle were regularly seen (b) Magnetic resonance imaging; 2 months after the trauma: Both iliopsoas muscles are of normal size and shape. White arrow indicate the absence of the right transverse process, yellow arrow shows the normal size and shape of the left transverse process

DISCUSSION

Transverse process fracture of the lumbar vertebrae may be seen due to direct blunt trauma, violent lateral flexion-extension forces with avulsion of psoas muscles and Malgaigne fractures of pelvis (5). According to us, although there is no obvious evidence, these fractures are often thought to be caused by high-energy traumas. Qian et al. (2) mentioned that forcibly stretching of iliopsoas muscle with trauma causes rupturing of its fibers and intramuscular bleeding. Also Maffuli et al. (6) mentioned in their articles that an IPH in an a taekwondo player with no history of direct trauma, but with a high inward-to-outward kick. And also it is understood from this article that after conservative treatment their patient (taekwondo player) was recovered. According to our investigations, severe decrease in hemogram values due to traumatic IPH as in our this case has not been reported until today. Only Gultekin et al. (4) mentioned a case with psoas muscle hematoma due to left 5 levels (L1-L2-L3-L4-L5) transverse process avulsion fractures. And in this case there was a 4×3 cm hematoma in the psoas site and a decrease of 3 gr/dL in the hemogram levels. They followed up their patient with conservative treatment and the psoas hematoma disappeared within 1 week. In our case only one transverse process was disconnected from the joint and moved into the iliopsoas muscle and anemia was seen in the patient about 6 hours after trauma. Despite a sudden decrease in hemogram values in the light of literature information, we treated our patient conservatively. As known the treatment for IPH has been described from observation to CT guided percutaneous drainage or open drainage of the collection (7). In the literature early surgical decompression has been advocated to be beneficial only if femoral nerve damage is observed (6).

In conclusion, the lumbar vertebrae transverse process fractures due to high energy trauma should be evaluated carefully in the emergency department and hemodynamic parameters should be followed.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept - T.Ç., S.K.; Design - T.Ç.; Supervision - T.Ç., S.K.; Resources - T.Ç.; Materials - T.Ç.; Data Collection and/orProcessing - T.Ç.; Analysis and/or Interpretation - T.Ç., S.K.; Literature Search - T.Ç.; Writing Manuscript - T.Ç.; Critical Review - T.Ç., S.K.

Conflict of Interest: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

Hasta Onamı: Yazılı hasta onamı bu olguya katılan hastadan alınmıştır.

Hakem Değerlendirmesi: Dış bağımsız.

Yazar Katkıları: Fikir - T.Ç., S.K.; Tasarım - T.Ç.; Denetleme - T.Ç., S.K.; Kaynaklar - T.Ç.; Malzemeler - T.Ç.; Veri Toplanması ve/veya İşlemesi - T.Ç.; Analiz ve/veya Yorum - T.Ç., S.K.; Literatür Taraması -T.Ç.; Yazıyı Yazan - T.Ç.; Eleştirel İnceleme - T.Ç., S.K.

Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemişlerdir.

Finansal Destek: Yazarlar bu çalışma için finansal destek almadıklarını beyan etmişlerdir.

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