

Chronic Subdural Hematoma in Capoeira Sport

Kapoeira Sporunda Görülen Kronik Subdural Hematom

ABSTRACT

Chronic subdural hematomas in young people is extremely rare and has some provoking factors such as V-P shunts, arachnoid cyst, anticoagulant drug usage, vigorous sports and coagulopathies. A static or dynamic mechanical load is almost always delivered to skull associated with either mild or severe head trauma. A 25-year old-man who was previously healthy has complained of intermittent headache for six months. He had been interested in capoeira (Brazilian exciting sport) for two years and has had no any evidence of head injury. After admission, he was operated immediately because of chronic subdural hematoma. We report a patient who is the first chronic subdural hematoma in the literature due to playing capoeira.

KEY WORDS: Capoeira, Chronic subdural hematoma, Sport

ÖZ

Genç insanlarda kronik subdural hematom son derece nadirdir ve V-P şant, araknoid kist, antikoagülan ilaç kullanımı, çeşitli sporlar ve koagülopatiler gibi bazı kolaylaştırıcı faktörler eşliğinde gelişir. Kafatasına statik veya dinamik mekanik yüklenmeler, hemen her zaman hafif ya da ciddi kafa travmalarıyla birlikte. 25 yaşında 6 aydır aralıklı baş ağrısı yakınması olan erkek hasta kliniğimize başvurdu. Özgeçmişinde 2 yıldır bir Brezilya dövüş sanatı olan kapoeira sporu yaptığı ancak belirgin bir kafa travması öyküsü olmadığı öğrenildi. Hastaneye yatırıldığı gün subdural hematom nedeniyle acilen opere edildi. Literatürde kapoeiraya bağlı gözlenen ilk kronik subdural hematom olgusunu sunuyoruz.

ANAHTAR SÖZCÜKLER: Kapoeira, Kronik subdural hematom, Spor

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INTRODUCTION

It is well known that chronic subdural hematoma (CSH) can occur after mild injuries. In general, these injuries are observed in elderly patients who are minimally symptomatic. Also, using an anti-platelet agent is a well known risk for CSH in elderly and young patients with or without trauma (9). Sports-related chronic subdural hematomas are known to occur as a result of ball games, bicycle sports, snowboarding, race walking and rollercoasters (1,2,3,8,10). All these sports cause CSH related with head trauma.

In the present case, we described a young man who had no history of head injury and was the first patient with CSH due to playing capoeira in the literature.

CASE REPORT

A 25-year-old man with severe throbbing headache for 24 hours presented at our hospital emergency department. He had headache complaints for six months and took the anti-platelet agent acetyl-salicylic acid (ASPIRIN®) as an analgesic. He had played capoeira for the last two years. When he felt well, he carried on his daily activity and kept playing capoeira. His neurological examination was normal. The computed tomography (CT) scan showed hypodensity in the left subdural area suggestive of a chronic subdural hematoma and the laboratory examinations were normal. A magnetic resonance study (MRI) was made prior to the surgery. It revealed that the left frontoparietal chronic subdural hematoma caused a midline shift (Figure 1 left). The hematoma was evacuated with two burr-holes surgery performed on the day of the admission. The fluid had the typical appearance of 'crank case oil'. His headache resolved after the operation. Fourteen months after the operation, cranial MRI showed no subdural hematoma (Figure 1 right).

DISCUSSION

Chronic subdural hematoma in young patients is an extremely rare entity and is usually accompanied by some promoting factors such as V-P shunt, arachnoid cyst, anticoagulant drugs, coagulopathies and vigorous sports (3,6,11). In particular, sports-related CSHs are well-known neurosurgical entities (5,8). They are described for ball games, bicycle

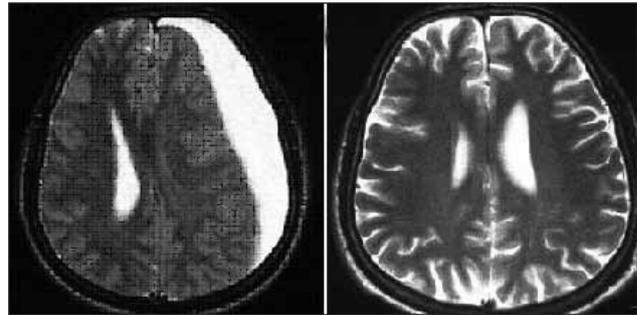


Figure 1: *Left:* T2 axial MRI (without contrast) shows left frontoparietal chronic subdural hematoma causing midline shift and ventricular compression **Right:** T2 axial MRI which was obtained two months later after the operation shows no subdural hematoma and fluid collection.

sports, snowboarding, race walking and roller coasters in the literature (1,2,3,8,10). A static or dynamic mechanical load is almost always delivered to the skull associated with either mild or severe head trauma (4). This loading can sometimes be so powerful that it causes very serious intracerebral hemorrhage and displaced skull fractures and sometimes just mild stretching of the veins. These stretched forces may lead to torn arachnoid or bridging veins. Also, anti-platelet agents, coagulopathy and anticoagulant therapy may accelerate this presentation in many cases (7).

We described a young patient who has no history of mild or severe head injury in capoeira and was operated because of sports-related CSH. In our opinion, the most probable mechanism of injury in our case can be explained by impulsive load in non-accidental head trauma. In capoeira sport, translational, rotational or angular motions of the head can create an impulse load (acceleration or deceleration) on brain surface (Figure 2). The impulsive load leads to tissue strain, which can be of three types: tension, compression, or shear. Especially angular or rotational motion of the head can lead to shearing forces on the bridging veins(4). Also, taking acetyl-salicylic acid is an additional promoting factor in our case.

In conclusion, sports-related or sports associated headaches may be a good signal for serious intracranial pathology. In addition to headache, usage of acetyl-salicylic acid for medication should be immediately evaluated by CT scan or MRI to rule out a chronic subdural hematoma.



Figure 2: Two players are fighting without hitting, kicking, beating or touching. The player's feet miss each other's head by mere fractions of inches. What looks like a dance one minute, looks like a fight the next. We can image brain's translational, rotational or angular motion in the skull. (original photo from fetedessportsastuss.free.fr/images/capoeira6.jpg)

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