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Cervical schwannoma presenting with trauma-induced neurological symptoms

Nörolojik bulguları travma ile ortaya çıkan servikal schwannom: Olgu sunumu

Recep FEDAKAR, Okan AKAN,[1] Bulent EREN

Uludağ University Medical School, Forensic Medicine Department; [1]Council of Forensic Medicine, Bursa Morgue Department

Otuz yedi yaşında erkek hasta, trafik kazası sonrasında ortaya çıkan nörolojik bulgularla hastaneye yatırıldı. Fizik muayenesinde kazaya bağlı travmatik bir yaralanma saptanmadı. Boynun manyetik rezonans görüntülemesinde servikal 1-2 omur seviyesinde düzgün sınırlı, homojen kontrast tutulum gösteren bir kitle saptandı. Elektif şartlarda ameliyat edilen hastadan çıkarılan kitlenin patolojik tanısı schwannom idi. Hastanın nörolojik bulguları ameliyat sonrası ikinci gün kayboldu. Altı ay sonra yapılan muayenesinde herhangi bir nörolojik defisit saptanmadı. Nörolojik bulguların travma sonrası ortaya çıktığı ve tanının bu şekilde konduğu servikal schwannom literatürde bildirilmemiştir.

Anahtar sözcükler: Boyun omurları; sıkıştırma, patolojik/etyoloji; nörilemmoma/tanı; omurilik neoplazileri/tanı.

A 37-year-old man was admitted with neurological complaints after a traffic accident. Physical examination showed no signs of injury due to the accident. Magnetic resonance imaging of the neck revealed a well-demarcated lesion showing homogeneous contrast enhancement at the level of C_{1-2}. The patient underwent elective surgery, and histopathological diagnosis of the surgical specimen was made as cervical schwannoma. His neurological complaints disappeared on the second postoperative day. No neurological deficit was observed at six-month follow-up. To our knowledge, there has been no literature report in which the diagnosis of cervical schwannoma was made during investigation of trauma-induced neurological symptoms.

Key words: Cervical vertebrae; constriction, pathologic/etiology; neurilemmoma/diagnosis; spinal cord neoplasms/diagnosis.

Schwannomas are the tumors that take origin from the nerve cover of the cranial, peripheral and autonomic nerves and are seen high frequency at neurofibromatosis type 1 and 2. Most of the schwannomas at central nerve system settle in acoustic nerve direction at the cerebellopontin angle and 25-40 % of the extra cranial cases settle at cranium and neck region.[1,2] Among the nerve system malignity these cases settle in the spinal region constitute 5% ratio. [3] There is no similar published case in the literature that diagnosed after trauma presence with neurological complaints. The aims of this case report are to discuss the features of the cervical schwannoma case presented with neurological complaints after trauma, and to highlight the importance of the case on the aspect of forensic medicine practice in our country.

Case report

The reported case was a 37-year-old man admitted to the hospital with presence of neurological complaints, like involuntary contractions of the four extremities, local sensitivity on the processus spinosus of the cervical vertebras, pain with neck movements, immoderation of the deep tendon reflexes, spasm and jerks without control. General condition, cooperation and orientation of the patient were well. He was conscious.

Case was presented as Poster Presentation in 12 Forensic Medicine Days, Antalya/Turkey 28 September-2 November,2005
Correspondence / *Yazışma adresi:* Dr. Bulent Eren. Uludağ University Medical School, Forensic Medicine Department, 16059, Görükle, Bursa/ Turkey. Phone: 0224 - 222 03 47 Fax: 0224 - 225 51 70 e-mail: bulenteren2000@yahoo.com

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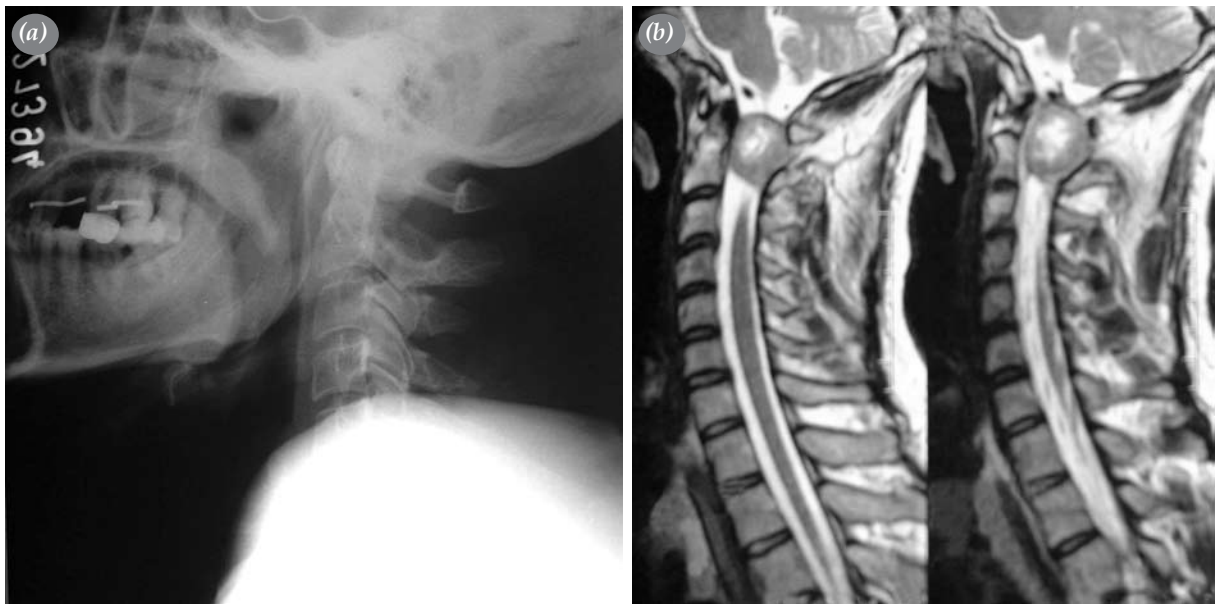

Figure 1. (a) Lateral cervical radiogram. **(b)** MR vertical section - cervical schwannoma.

The basic life findings were stable. Any traumatic lesions were determined at medical examination. There was no specialty at direct cranial graphy and computerized tomography of the brain. Magnetic resonance imaging of his neck revealed a well-demarcated showing homogeneous contrast enhancement settled extradural at the anterior of the spinal cord and progressed to the foramen from the lateral to the left side of the cervical 1-2 vertebra level. Para enteric dexametason treatment was applied. From the deepened anamnesis of the case it was learned that four months before the accident there were contractions of the left shoulder for a little period and disappeared spontaneously. Any investigation was made for the spinal mass and no diagnosis was produced. The patient underwent elective operation after 9 days from the accident. After the operation 4x10 cc. mannitol was added to the his treatment. The histological research of the tumoral tissue fragments that 10 cc. volume, some of them white colored and bloody, broken quality, revealed cellular 'Antoni A' pattern, classical appearance of cervical schwannoma, and 'Verocay bodies' nucleus structures that encircles pink areas by forming palisades and the tumor was diagnosed as schwannoma. After the resection neurological complaints retrograded quickly and disappeared after the second day of the operation. Medical examination after six months there were no neurological deficit. The judicial report was written as the trauma composed soft tissue injury, was not life threatening.

Discussion

The schwannoma cases are benign neoplasm's that growing up slowly, and have the low potential of invasion and metastasis. Despite of the growing up slowly of the tumor, after and during the expansive growing to do demolition, malign changing and to notice degenerations are very important.[1-3] Acute neurological findings due to schwannoma- easily operable tumor-arise by sudden changing's like blooding cause subdural hemorrhage and impression of the vertebral artery.[4-7] A case of cervical schwannoma that presence of complaints after trauma, uncertain clinical history, revealed by the chance was not published in the literature before. Our case is interesting because of showing any signs before trauma,

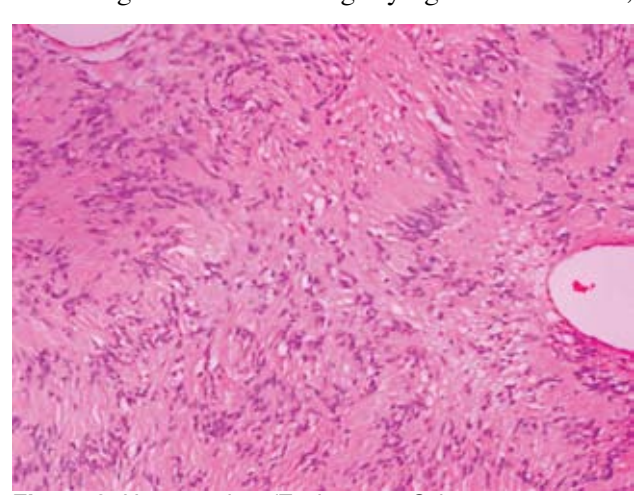

Figure 2. Hematoxylene/Eosin x100 - Schwannoma

presence of complaints after trauma immediately, early revealing before growing and expansion of the tumor. At the literature it is decelerated that schwannoma cases can be appear with motor and sensorial deficient's, also affect the vagal and phrenic nerve,[8,9] similar to our case among the extradural schwannomas discovering signs by impression of the vertebral artery.[5]

According to Turkish Penalty Code, numbered 5237, article 89/2, if an unintentional injury threatens one's life to danger, the offender can be sentenced to prison for until 1.5 years.[10] On the aspect of the forensic medicine practice according to Turkish Penalty Code, despite the presence of the neurological complaints, like involuntary contractions of the four extremities, spasm and jerks without control, it was considered the essential pathology was organic, the changing's of the organic lesion after trauma were occurred due to the edema because of the soft tissue injury. Because of lack of the lesions like ecchymosed, abrasion and laceration show that he was subjected to flexion, extension movement or minor whiplash injury and expansion of the tumor to the foramen is pushed the trigger by blooding and edema around tissue and caused to presence of the neurological findings. The contractions of the arms and legs were commented as pyramidal symptoms. The appearance of these symptoms expresses the spinal cord compression increased by trauma. Indeed trauma didn't injury spinal cord but by the flexion, extension movement or whiplash effect, tumor affected the spinal pyramidal tracts'. On this occasion in our case the neurological complaints occurred after traffic accident but indeed it was not because of trauma, the essential pathology was organic, after the operation all of the symptoms were disappeared, trauma caused soft tissue injury at the neck and as a result the opinion came to conclusion that there was no causality between the trauma and the lesions and the judicial report was written as the trauma caused soft tissue injury, was not life threatening and could be treated with a basic intervention.

In our country due to the ratio of traffic accidents, multidisciplinary approaches have to be evaluated and on the aspect of forensic medicine applications all of the lesions of the cases are cautiously defined complete and correct. In the cases evaluations of the motor deficits are done carefully. And seen as the case we presented, the necessity of deep investigation is proved. In conclusion, the correct justice is manifested by the complete investigation, reveal the lesions and there must be causality between the trauma and the lesions.

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