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Schwannoma as a rare cause of syncope: A case report

Nadir bir senkop nedeni olarak schwannoma: Olgu sunumu

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Abstract

Syncope is a loss of consciousness due to transient global cerebral hypoperfusion and characterized by rapid onset, short term and spontaneous complete recovery. The cases with syncope need to be carefully and thoroughly evaluated. Our patient who is 56 year old male was admitted with complaints of syncope and hand numbness. We presented mediastinal schwannoma as a rare cause of syncope in our case.

Keywords: Syncope, Schwannoma, Mediastinal tumor

Öz

Senkop hızlı başlangıç, kısa süre ve spontan tam iyileşme ile karakterize, geçici global serebral hipoperfüzyona bağlı bilinç kaybıdır. Senkoplu olguların dikkatli ve detaylı değerlendirilmesi gerekir. 56 yaşında erkek hastamız senkop ve kolda uyuşma şikayetleri ile başvurdu. Biz de bu vakamızda senkopun nadir bir nedeni olarak mediastinal Schwannomayı sunduk.

Anahtar kelimeler: Senkop, Schwannom, Mediastinal tümör

Introduction

Syncope is a sudden postural tonus and loss of consciousness that develops in a short time resulting from temporary impairment of cerebral perfusion; and it results in spontaneous recovery. Syncope is classified according to the underlying etiologic cause. Cardiac arrhythmias, structural heart diseases, neurogenic causes and cerebrovascular diseases are the main causes [1]. Treatment and prognosis of the etiologic causes are very different from each other, so it is necessary to evaluate the syncope cases carefully and in detail.

Mediastinal Schwannomas are largely benign and asymptomatic, but may cause thoracic pain, Horner's syndrome, aphonia and weakness in the upper extremity due to pressure of the lesion. In our case, we evaluated mediastinal schwannoma in the differential diagnosis of the syncope which is an atypical application.

Case presentation

A 56-year-old male patient was admitted to our polyclinic with complaints of syncope and hand numbness twice in the last 2 weeks. There was no chronic illness and no drug use history in the background of the patient. There was 20 packet/year cigarette use. The physical examination of the patient was normal. The height was 170 cm, weight was 72 kg, blood pressure was 130/70 mmHg and the pulse was 70 beat/min. Electrocardiogram (ECG) showed normal sinus rhythm and no pathological finding was evaluated in echocardiography. Tilt test was normal. Laboratory findings were; Glucose: 94 mg/dl (70-110), creatinine: 0.9 mg/dl (0.7-1.2), aspartate transaminase: 14 U/L (0-40), alanine transaminase: 9 U/L (0-40), leukocyte: 7.1 10⁹/L (4-10), hemoglobin: 16 gr/dl (12-16), sedimentation (1st hour): 13 mm (1-23). In chest X- Ray; an increase in mediastinal density that caused deviation of the trachea slightly to the right side, was observed (Figure 1). In thoracic computed tomography (CT) of the patient, a smooth surface mediastinal mass was observed along the upper left paratracheal area.

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The left main carotid artery, the vertebral artery, the thyroid gland, the left lobe and trachea pressure were observed, but there was no significant invasion (Figure 2). Tumor markers were normal. No metastatic sign was observed in abdominal dynamic magnetic resonance imaging (MRI) and diffusion weighted brain MRI. The tumor was removed by radical surgical resection with thoracotomy. The pathology of the mass removed by surgical resection and which was macroscopically soft, encased in fibrous capsule was evaluated to be Ancient Schwannoma. Diffuse S-100 positivity was observed in tumor cells. No complaints of syncope and numbness in the hands were observed in postoperative 1-month follow-up of the patient.



Figure 1: Mediastinal mass in chest X-Ray



Figure 2: Mediastinal mass in pulmonary computed tomography scan

Discussion

Syncope is a loss of consciousness due to transient global cerebral hypoperfusion and characterized by rapid onset, short term and spontaneous complete recovery [1]. Although it is usually benign, syncope may be a result of a cardiogenic, neurogenic, or metabolic disease. Cardiovascular causes of syncope can be categorized as follows; aortic stenosis, hypertrophic obstructive cardiomyopathy, primary pulmonary hypertension, sick sinus syndrome, long QT syndrome, supraventricular tachycardia and heart blocks [1,2]. Our patient's ECG was in normal sinus rhythm and his echocardiographic examination was also normal. Also, there was not a drug use to

prolong QT (antiarrhythmic, vasodilator, psychotropic, antibiotic, non-sedating antihistamine).

The most common cause of noncardiac syncope is neurocardiogenic syncope and it is also called vasovagal syncope. Vasovagal syncope is divided into two groups as cardioinhibitor and vasodepressor. It is thought that it results from an abnormality in neurocardiovascular interactions responsible for systemic and cerebral perfusion. Other causes of noncardiac syncope are orthostatic hypotension, cerebrovascular diseases, neurological disorders such as migraine, vertigo, psychogenic diseases such as conversion, emotional states such as excitement and fear, or metabolic disorders such as hypoglycemia, hypoxia, hyperventilation and dehydration [1,3,4]. In the examination of our patient, tilt test was normal. There was not a psychological disorder, migraine or vertigo. Diffusion brain MR was normal in terms of cerebrovascular disease.

Neurogenic tumors constitute approximately 20% of all adult mediastinal tumors and are the most common cause of posterior mediastinal mass. Schwannomas are the most common (approximately 50%) mediastinal neurogenic tumors and frequently affect patients aged 20-30 years [5]. Schwannoma is a benign tumor originating from the Schwann cells forming the peripheral nerve sheath. In our case, Schwannoma was found in the mediastinal area.

Mediastinal Schwannomas are largely benign and asymptomatic, but may cause thoracic pain, Horner's syndrome, aphonia and weakness in the upper extremity due to pressure of the lesion [6]. Our case applied to the hospital with syncope developing due to the pressure of mediastinal mass on left main carotid and vertebral artery.

They are generally seen as well-defined solitary mass on chest X-Ray and thoracic CT. Calcification and cystic changes can be observed [7]. In rare cases, malignant changes can be observed in schwannomas especially with Von Recklinghausen disease [4]. In patients with malignant features, irregular borders and invasion on surrounding bone tissues are seen frequently. In our case, the mass had no significant invasion and it was smooth surface.

Radical surgical resection with thoracotomy is the treatment of choice for all (benign or malign) peripheral nervous origin tumors [9]. In our case, a mass which was macroscopically soft and encased in fibrous capsule was removed by surgical resection.

In conclusion, although syncope is usually benign, every patient must be evaluated by a good physical examination and a detailed history. It was emphasized that neurogenic causes and mediastinal schwannomas must be taken into account in differential diagnosis, apart from cardiac arrhythmias, structural heart diseases, cerebrovascular diseases.

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