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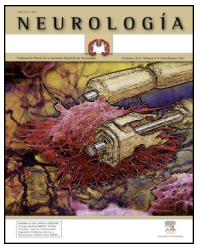

ORIGINAL ARTICLE

Neurological manifestations of cardiac myxoma: Experience in a referral hospital☆

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KEYWORDS
Cardiac myxoma;
Stroke;
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Abstract
Introduction: Cardiac myxoma is an important but uncommon cause of stroke in younger patients. Few published case series analyse the frequency and clinical presentation of neurological complications in patients with myxoma.
Objective: To list all neurological complications from cardiac myxoma recorded in our hospital in the past 28 years.
Patients and methods: We retrospectively reviewed the neurological manifestations of cardiac myxoma in patients treated in our hospital between December 1983 and March 2012.
Results: Of the 36 patients with cardiac myxoma, 8 (22%) presented neurological manifestations. Half were women and mean age of patients was 52.4 ± 11.6 years. Sudden-onset hemiparesis was the most frequent neurological symptom (63%). Established ischaemic stroke was the most common clinical manifestation (75%), followed by transient ischaemic attack. The most commonly affected territory corresponded to the middle cerebral artery. Myxoma was diagnosed by echocardiography in all cases. Mean myxoma size was 4.1 cm and most of the tumours (63%) had a polypoid surface. All tumours were successfully removed by surgery. There were no in-hospital deaths.
Conclusions: Cardiac myxomas frequently present with neurological symptoms, especially ischaemic events (established stroke or transient ischaemic attack), in younger patients with no cardiovascular risk factors. The anterior circulation is more frequently affected, especially the middle cerebral artery. Echocardiography can facilitate prompt diagnosis and early treatment of the lesion.

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PALABRAS CLAVE
Mixoma cardiaco;
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Ataque isquémico transitorio;
Ecocardiografía

Manifestaciones neurológicas de los mixomas cardiacos. Experiencia en un centro de referencia

Resumen
Introducción: El mixoma cardiaco es una causa poco frecuente pero importante de infarto cerebral en pacientes jóvenes. Existen pocas series de pacientes que analicen la frecuencia de las manifestaciones neurológicas en pacientes con mixoma y su presentación clínica.
Objetivo: Conocer las complicaciones neurológicas del mixoma cardiaco en nuestro hospital durante los últimos 28 años.
Pacientes y métodos: Revisión retrospectiva de las manifestaciones neurológicas de 36 pacientes operados de mixoma cardiaco con confirmación patológica en nuestro centro desde diciembre de 1983 hasta marzo del 2012.
Resultados: Ocho de los 36 pacientes con mixomas cardiacos (22%) intervenidos en nuestro centro presentaron clínica neurológica. El 50% eran mujeres y la edad media ± desviación estándar de 52,4 ± 11,6 años. El síntoma neurológico más frecuente fue la hemiparesia de aparición brusca (63%). El ictus isquémico establecido fue la manifestación clínica más frecuente (75%), seguido del accidente isquémico transitorio. El territorio más afectado fue el de la arteria cerebral media. En todos los casos se alcanzó el diagnóstico del tumor mediante ecocardiografía. El tamaño medio del mixoma fue de 4,12 cm. La mayoría (63%) presentaba una superficie polipoide. Todos los tumores fueron resecados quirúrgicamente con éxito. No hubo muertes hospitalarias.
Conclusiones: Los mixomas cardíacos comienzan frecuentemente con manifestaciones neurológicas, en particular como eventos isquémicos (AIT o ictus establecidos) en pacientes jóvenes y sin factores de riesgo cardiovascular. El territorio anterior, en especial la arteria cerebral media, suele estar más frecuentemente afectado. La ecocardiografía puede facilitar el diagnóstico y permitir un tratamiento precoz de la lesión.

Introduction

Cardiac myxoma is the most frequent primary cardiac tumour, accounting for as many as 80% of all cardiac tumours described in surgical series.[1] It is generally believed that they arise from multipotent mesenchymal cells of the endocardium.[2] Although up to 10% of all patients may be asymptomatic,[3] most patients present one of the symptoms in the classic triad: intracardiac obstruction (50%—70%), peripheral or central systemic embolism (16%—45%) and constitutional symptoms (fever, asthenia, and weight loss) in as many as 50%.[3]

Neurological manifestations of cardiac myxomas are frequently due to cerebrovascular complications, which occur in 25% to 45% of all cases and may appear as the initial symptom.[4] The most frequent stroke presentation was ischaemic stroke due to emboli from the myxoma. Strokes may be recurrent if the tumour is not diagnosed and treated. Presentation as haemorrhagic stroke is infrequent, and this tends to be associated with the formation of aneurysms in the cerebral circulation.

This series describes neurological manifestations in patients with cardiac myxomas which we observed in our hospital over the last 28 years. Here, we analyse morphology and ultrasound data from myxomas and review literature on this topic.

Patients and methods

We reviewed anatomical pathology reports dating from December 1983 to March 2012 and found 36 patients with an anatomical pathology diagnosis of cardiac myxoma (mean age ± standard deviation = 56 ± 13 years, age range 26—80 years, 64% women). These clinical histories were revised in detail and researchers recorded presence or absence of neurological conditions associated with the myxoma. In each of these cases, we recorded the patient's cardiovascular risk factors, drug therapy prior to admission, neurological symptoms, neuroimaging tests performed, diagnosis, myxoma size and type, and the patient's clinical and functional outcome. The last parameter was obtained by estimating mRS at 6 months. Statistical testing was completed using SPSS software version 17.0 (IBM Corporation, Armonk, New York, USA).

Results (Tables 1 and 2)

Personal history

Of the 36 patients with myxoma, 8 (22%) presented neurological manifestations. Of these patients, mean age was 52.4 ± 11.6 years (range, 26—64), and 50% were women. Two patients (25%) had no cerebrovascular risk factors and the remaining 75% presented one or more known risk factors. Within this group of 8, 4 were smokers (50%), 3 had hypertension (37.5%), 3 had type 2 diabetes (37.5%), 2 had dyslipidaemia (25%), 2 were obese (25%), 1 had chronic obstructive pulmonary disease (12.5%) and 1 had atrial fibrillation (12.5%). There were no significant differences between medical histories in the patient group with myxoma and neurological manifestations and the other patients (myxoma without neurological manifestations).