RADIOLOGÍA

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ORIGINAL REPORT

Diabetic mastopathy: Clinical presentation, imaging and histologic findings, and treatment[☆]

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Abstract

Objective: Diabetic mastopathy is an uncommon complication of longstanding diabetes mellitus that must be considered in the differential diagnosis with breast cancer. We report the clinical presentation and course, the imaging and histologic findings, and the treatment of the patients diagnosed with diabetic mastopathy at our hospital.

Material and methods: In an 11-year period, we studied six insulin-dependent diabetic patients (five women and one man) with diabetic mastopathy. Imaging studies included mammography, ultrasonography, and magnetic resonance imaging. A definitive histologic diagnosis was reached after core needle or surgical biopsy in all cases. Fine-needle aspiration cytology was not used in any of the cases. The mean follow-up period was 7 years.

Results: The most common clinical presentation was a palpable nodule (67%). The imaging findings were (a) at mammography: asymmetrical density (50%), (b) at ultrasonography: a solid, hypoechoic nodule measuring between 1 cm and 5 cm in diameter, with ill-defined margins, acoustic shadowing, and no Doppler signal (50%), and (c) at MRI: enhancement after the administration of contrast media (66%). The most common histologic finding was lymphocytic mastitis in the initial stages (83%). All patients underwent surgical treatment (100%).

Conclusions: Diabetic mastopathy is an uncommon disease that should be included in the differential diagnosis with breast cancer in diabetic patients. The diagnosis is complex because it requires knowledge of the patient's history, clinical presentation, and the imaging and histologic findings; conservative surgery is the treatment of choice because the condition does not respond to medical treatment.

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Mastopatía diabética: clínica, hallazgos radiológicos y anatomopatológicos y tratamiento

Resumen

Objetivo: La mastopatía diabética (MD) es una complicación infrecuente de la diabetes mellitus de larga evolución, que plantea el diagnóstico diferencial con el cáncer de mama. Se estudian la presentación clínica y evolución de la MD, los hallazgos radiológicos, la histología y el tratamiento en los pacientes diagnosticados en nuestro hospital.

Material y métodos: Se incluyen 6 pacientes diabéticos insulinodependientes con MD, 5 mujeres y un varón, diagnosticados en un periodo de 11 años. El estudio radiológico se realiza con mamografía, ecografía y resonancia magnética (RM). Se obtiene en todos los casos un diagnóstico anatomopatológico definitivo con biopsia con aguja gruesa o quirúrgica. No se recurre en ningún caso a punción-aspiración con aguja fina. Se lleva a cabo un seguimiento clínico en un periodo medio de 7 años.

Resultados: La presentación clínica más frecuente es el nódulo palpable (67%). Los hallazgos radiológicos son: en la mamografía, la asimetría de densidad (50%), en la ecografía un nódulo/masa sólido, hipoecoico, de 1–5 cm, mal definido, con sombra acústica y sin señal Doppler (50%) y en la RM el realce tras la administración de contraste (66%). El hallazgo anatomopatológico más frecuente es la mastitis linfocítica en estadios iniciales (83%). Se realiza un tratamiento quirúrgico en todos los pacientes (100%).

Conclusiones: La MD es una enfermedad poco frecuente que plantea el diagnóstico diferencial con el cáncer de mama. Su diagnóstico es complejo, pues requiere el conocimiento de los antecedentes personales del paciente, la clínica, la exploración física y los hallazgos radiológicos e histológicos. El tratamiento quirúrgico conservador es de elección, porque no se obtiene respuesta con el tratamiento médico.

Introduction

Diabetic mastopathy (DM) is an uncommon complication of longstanding insulin-dependent diabetes mellitus (IDDM). Its etiology is unknown, though the most accepted theory is that this condition results from an immune reaction.[1] The clinical presentation and the imaging findings suggest that DM must be considered in the differential diagnosis with breast cancer. For this reason, thorough understanding of the condition is essential.

This paper discusses the clinical presentation, imaging findings, histopathologic findings, and treatment of patients who were diagnosed with DM in our hospital.

Materials and methods

Six patients were diagnosed with DM, and treated in our hospital over an 11-year period (from January 1999 to December 2009).

For the study, all patients underwent mammography; in one patient, the mammography was performed in other institution. The mammography unit in our hospital is an Alpha RT Instrumentarium Imaging (Helsinki, Finland).

All patients underwent breast ultrasound, except for one patient, who was incidentally diagnosed with DM after undergoing plastic surgery. The ultrasound system used was an ESAOTE Technos MPX (Genoa, Italy) with a 7.5–10 MHz linear probe.

Magnetic resonance imaging (MRI) was performed on three patients with a Philips Achieva Intera 1.5 T scanner (Best, Holland). The study protocol included two T2-weighted sequences (coronal and axial planes) and one volumetric T1-weighted gradient-echo sequence with $0.8\,mm \times 0.8\,mm \times 2\,mm$ spatial resolution with the acquisition of one sequence with no contrast agent and five sequences after contrast administration (Gd-DTPA, 1 mmol/kg at 3 ml/s) followed by a saline solution bolus (15 ml). Image post-processing involved image parametric analysis, multiplanar reconstructions (MPR), and maximum intensity projections (MIP).

Histopathologic diagnosis of all patients was obtained. Three of them underwent ultrasound-guided core needle (14 G) biopsy (UGCB) because of a suspected malignant lesion. The remaining three patients underwent surgical biopsy because of lack of clinical–radiological correlation (in one female patient), breast reduction mammoplasty, and suspicion of a breast abscess (in the only male patient).

Hematoxylin–eosin stain was used for the histologic diagnosis (Fig. 1).

The surgical treatment was performed under general anesthesia.

Results

Six patients with IDDM (five females and one male) were diagnosed with DM, and treated in our hospital from January 1999 to December 2009. Table 1 shows the clinical imaging findings in these patients. Mean age at DM diagnosis was 38 years (age range: 28–58 years), and mean time for the development of diabetes was 10 years and 8 months