

SHORT COMMUNICATION

Benign Symmetric Lipomatosis of the Medial Knees: A Case Report

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Benign symmetric lipomatosis is a rare disorder characterized by abnormal fat tissue distribution. This disorder was first described by Brodie in 1846, and thereafter characterized by Madelung in 1888 and Launois & Bensaude in 1898 (for review see ref 1). The disease usually affects the upper part of the body, and the patient often suffers from alcoholism. We herein report a case of benign symmetric lipomatosis of the medial knees without alcoholism.

CASE REPORT

A 68-year-old Japanese woman was referred to our department in June, 2012, with a six-months' history of localized swelling on both knees. She was not a heavy drinker. Her height, body weight and body-mass index were 156 cm, 59 kg and 24.2, respectively. Physical examination revealed a fist-sized localized swelling on the inner sides of both knees. The localized swelling were slightly firm, elastic and painless but failed to yield when pressure was applied (Fig. 1). There was no family history of this condition. She had slight hypertension and diabetes mellitus, which were well controlled by medication.

The results of routine laboratory tests including haematology, liver and renal functions, as well as CRP levels, were within normal limits. The levels of serum glucose, cholesterol and serum triglycerides were also normal. Magnetic resonance images (MRI) of both legs revealed pronounced accumulation of subcutaneous fat tissue, however, no abnormalities in muscle or bone were detected (Fig. 2). Histologically, a localized swelling showed normal adipose tissue that was not encapsulated by connective tissue.



Fig. 1. Physical examination revealed the localized swelling on the medial knees. The localized swelling were soft and painless but failed to yield on pressure.

Based on the above findings, we diagnosed her as having benign symmetric lipomatosis. Since she rejected surgical treatment, she was advised to wear compression stockings.

DISCUSSION

Benign symmetric lipomatosis is a rare disorder characterized by abnormal fat tissue distribution that usually affects the neck, shoulders and upper extremities. This condition is also known as Madelung disease. In rare cases in which the thighs and groins are involved, the patients also have lipomatosis on the neck and shoulders. Obesity can be excluded since symmetric lipomatosis develops relatively rapidly and as adipose tissue distribution is normal in the rest of the body. The disease is frequently seen in middle-aged men who have a history of decades of heavy drinking (2, 3). Findlay & Duvenage (4) reported a single case of symmetric lipomatosis involving only the hands. To our knowledge, there has been no reported case that exclusively involves the medial aspects of the knees (lower leg).

The pathogenesis of lipomatosis is unknown. Adipocytes from lipomatosis have been found to be relatively insensitive to the lipolytic effect of catecholamines (5). Damage to mitochondrial DNA is assumed to cause a discrete malfunction in fat metabolism (6).

This disease may be asymptomatic. However, the masses of benign symmetric lipomatosis are non-encapsulated, and can eventually reach a very large size, resulting in reduced range motion of the neck and

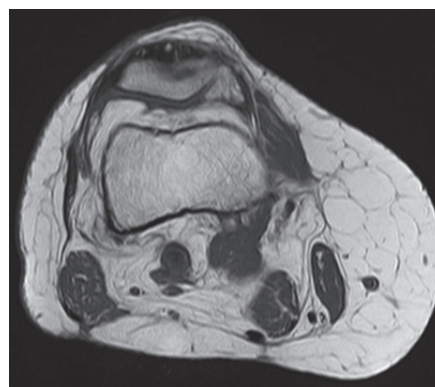


Fig. 2. T2-weighted horizontal magnetic resonance imaging of one leg revealed pronounced accumulation of subcutaneous fat tissue; however, no abnormalities of the muscle or the bone were detected.

upper extremities. In advanced cases, the fat deposition causes dyspnea. In this condition, a thick and disfiguring subcutaneous deposit of white fat gradually infiltrates the neck, extending from the head to the shoulder (7).

The treatment of lipomatosis is challenging. Liposuction as well as open surgical excision can be performed in patients with severe cosmetic problems (8). Complete excision of the lesions is difficult because of the non-encapsulated fat tissue and compromised neurovascular structures. Therefore, lipectomy and liposuction should be limited to special cases in which there is compression of vital organs or large deformities.

The authors declare no conflict of interest.

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