Intramuscular Lipoma of the Frontalis Muscle

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Intramuscular lipomas are benign soft-tissue mesenchymal tumors which rarely occur in the region of the head. These tumors present as slow-growing, generally painless masses and are easily misdiagnosed initially as epidermal inclusion cysts. We describe a 44-year-old woman who presented with an intramuscular lipoma of the frontalis muscle.
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Key Words : Intramuscular lipoma, Frontalis muscle

Intramuscular lipomas, which are also referred to as infiltrating intramuscular lipomas, are benign neoplasms of mesenchymal origin characterized by their deep location and tendency to recur. They are seemingly rare in the face and scalp region. These tumors present as slow-growing, painless masses[1] and often become apparent only during muscle contractions when the tumor is converted into a firm spherical mass. We describe a case of infiltrating intramuscular lipoma of the frontalis muscle, which has not yet been reported in Korea.

CASE REPORT

A 44-year-old woman had an asymptomatic nodule on the forehead of 2 years' duration. She recently noticed the lesion to be increasing in size. Her past medical history and family history were non-contributory. The routine laboratory evaluation including a complete blood count, liver function test, and urinalysis were all within normal limits. A physical examination revealed a pea-sized, skin-colored, firm, fixed and non-tender nodule on the forehead (Fig. 1). The nodule was surgically excised and it was thought to be an epidermal cyst.

The excised mass measured 1.2 × 1 × 0.8cm in size and showed a yellowish lipoma-like appearance with ill-defined margins. It firmly adhered to the overlying dermis and surrounding muscles.

A biopsy specimen revealed that a lobular mass of well-differentiated fat tissue was intermingled with fibrous stroma, blood vessels, and striated muscle fibers and bundles. The striated muscle fibers showed splitting and occasional fraying without anaplastic changes (Fig. 2). There was no nuclear atypism, hyperchromatism, or mitosis.

Follow-up for six months showed no recurrence after the surgical treatment.

DISCUSSION

Lipomas involving skeletal muscle are generally divided into two groups; intermuscular and intramuscular lipomas. Both of them arise predominantly in middle to late adult life and usually occur on the trunk[2]. Lipomas of the face and neck have been reportedly rare, comprising less than 2% of lipomas[3] although more recent reports have claimed a much higher incidence of 14.5%[4]. Nevertheless, as the intramuscular variety accounts for only 1.8% of all lipomas, intramuscular lipomas are rarely considered as the primary preoperative diagnosis in these anatomic regions[4-6].

The intramuscular lipomas must be differentiated from other lipomatous processes that infiltrate muscle. Angiolipomas may demonstrate muscle infiltration but these tumors differ by possessing a marked vascular component[7]. Infiltrating lesions

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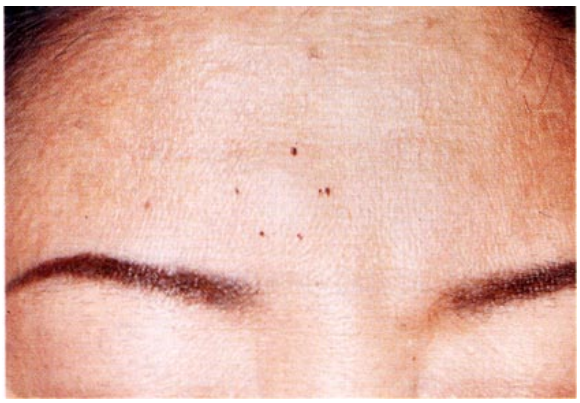

Fig. 1. Skin-colored pea-sized nodule on the forehead.

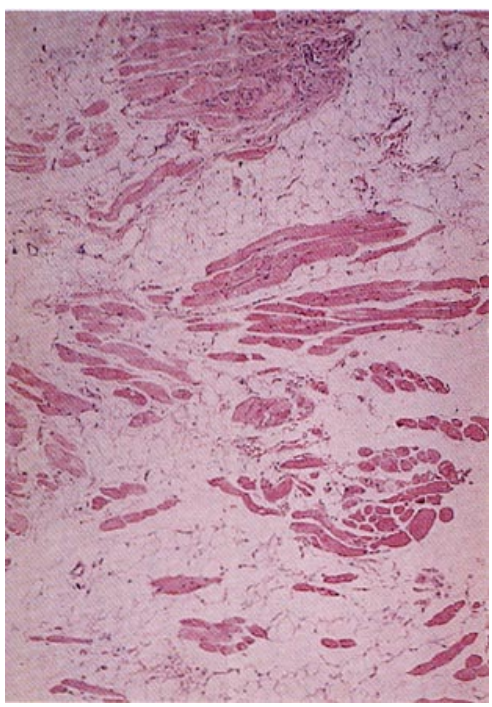

Fig. 2. Well-differentiated fat tissue intermingled with fibrous stroma, blood vessels, and striated muscle fibers (H&E, ×100).

of lipoblastomatosis and well-differentiated liposarcoma are distinguished by the presence of lipoblasts[8-10]. Along with such lipoblastic changes, liposarcomas show histological characteristics of varying degrees of differentiation, cellular pleomorphism, and atypia[7].

The term frontalis-associated lipoma of the forehead has been used when the tumors arise in the forehead[11]. It clinically presents as an asymptomatic dome-shaped or gently-sloped subcutaneous nodule and has often been mistaken as an epidermal cyst. It is non-tender, soft and compressible and has a doughy sensation in comparison to the tense sensation of an encapsulated fluid-filled cyst.

Since the intramuscular lipomas tend to recur unless completely excised, wide excision is the treatment of choice[2,12,13]. When these tumors occur in the head and neck, the extent of wide excision is limited by the reality of the compact and constrained anatomy. Therefore radiological examinations such as magnetic resonance imaging is sometimes helpful in recognizing the extent of the tumors[14].

Our patient's initial diagnosis was simply an epidermal cyst, so we excised it without any further evaluation. Although there has been no recurrence for six months after the excision, careful follow-up will be needed.

We emphasize the need for physicians to recognize this entity beforehand and to appreciate its significant tendency to recur. This will ensure adequate surgical measures.

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