distributed over the entire skin surface[6,7]; (2) localized multiple glomangiomas, in which glomus tumors are grouped together and limited to 1 region, for example a limb[8]; and (3) plaque-like congenital glomangioma, the rarest type of glomus tumor.[3,9,10]

The term congenital plaque-like glomangioma was coined in 1990 by Landthaler et al[3] in their description of poorly demarcated multiple plaques similar to hematomas located on the shoulders of 2 children. Subsequently, other cases were reported consisting of multiple bluish or reddish nodules grouped into 1 or several plaques, or in clusters of discrete nodules in a particular region of the body, which in some cases presented clinically with a morphology of venous malformation.[9,10] Plaque-like glomangioma is present from birth and may be painful. The lesions are generally flat at birth, pink or bluish in color, and increase in size as the child grows. During puberty, satellite lesions may appear at a distance from the initial lesion. There are descriptions of familial cases of autosomal dominant inheritance with incomplete penetrance and variable expressivity, in which family members have minor lesions. This should be differentiated from tufted angioma, venous malformations, or congenital plaque-like blue nevus[9,10].

In 1998, Requena et al[4] described a solitary plaque-like telangiectatic glomangioma, an entity distinct from congenital plaque-like glomangioma since it was solitary and acquired, with a telangiectatic surface. Our case substantially resembles this one (the patient's female sex and the localization, telangiectatic surface, and slight depression of the lesion), but differs from it in its congenital nature, and for this reason we consider it to be a solitary congenital plaque-like telangiectatic glomangioma.

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Angiolipomas and Antiretroviral Therapy

A Ramírez-Santos, M Ginarte, and J Toribio

Servicio de Dermatología, Complejo Hospitalario Universitario, Facultad de Medicina, Santiago de Compostela, Spain

To the Editor:

In recent years, an association has been described between the use of protease inhibitors for antiretroviral therapy and the appearance of angiolipomas and lipomas, as well as with an increase in the number and size of those already present.[1-3]

A 40-year-old man consulted in 2005 for lesions that first appeared in 1998, and that had increased in number and size since then. Some were tender to pressure or spontaneously painful, while others were asymptomatic. The patient, a former intravenous drug user, tested positive for hepatitis B, C, and D, and for the human immunodeficiency virus (HIV). He had started antiretroviral treatment with lamivudine, zidovudine, and indinavir in 1998, and in 2001 indinavir was substituted with nelfinavir; however, the lesions continued to appear. He reported no family or personal history of similar lesions.

Physical examination revealed numerous subcutaneous tumors on the upper limbs and, to a lesser extent, on the trunk and lower limbs. These were clearly circumscribed, firm, and, in some instances, painful to the touch (Figure 1).

Figure 1. Subcutaneous tumor on the forearm. The tumor was clearly circumscribed, firm, freely movable, and painful to the touch.

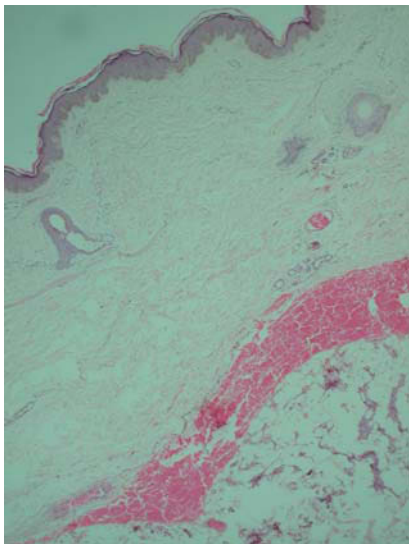

Figure 2. Encapsulated tumor of the adipose tissue with an increased vascular component. Fine-walled capillaries, extravasated red cells, and fibrin thrombi can be observed. (Hematoxylin-eosin, ×40.)

The patient also had a lipodystrophic appearance with central adiposity and lipoatrophy of the face and limbs.

Histopathological study of one of the lesions showed an accumulation of encapsulated adipose tissue, with no significant increase in mitotic figures or atypical cells. There was a large vascular component, with fine-walled capillaries, extravasated red cells, and fibrin thrombi (Figure 2). Angiolipoma was diagnosed.

Blood tests revealed hyperlipidemia and elevated transaminase levels, and imaging studies (computed tomography scan of the chest and abdomen and abdominal ultrasound) revealed hepatic steatosis, with no other alterations in visceral fat deposits. Immunological findings were acceptable (550 $CD4^+$ cells/μL), and the viral load was undetectable. The patient has remained stable since then, hence, no changes in antiretroviral treatment were considered necessary.

Use of protease inhibitors has been associated with abnormalities in the distribution of fatty tissue, producing morphological changes (central adiposity, peripheral lipoatrophy, mammary hypertrophy) and abnormal blood test results (hyperlipidemia, hyperinsulinemia). The proposed mechanism of action involves inhibition of cytochrome P450 3A in peripheral adipocytes, interfering with the metabolism of retinoic acid and producing abnormalities in apoptosis and adipocyte differentiation.[4]

Angiolipomas are benign adipose neoplasias that are differentiated from lipomas clinically by their greater sensitivity, histologically by their greater vascular component, and cytogenetically by the absence of karyotype abnormalities.[5]

Few similar cases have been reported since the first descriptions,[1,3] although the condition is probably underdiagnosed. At least 4 patients are known to have developed multiple angiolipomas while being treated with protease inhibitors before the present case.

All of the cases reported to date were in middle-aged men, except for the patient described by Daudén et al.[3] Lesions mainly appeared on the upper limbs—just as in idiopathic angiolipomas—but they have also been observed on the lower limbs and trunk. In 2 of the cases described, previous lesions were present, but these increased in number and size when antiretroviral treatment began.[1,3] The drug implicated in 4 of the cases, including our own, was indinavir,[1] while in the other patient it was saquinavir.[3]

The mechanism responsible for producing these benign tumors is considered similar to that implicated in lipodystrophy syndrome,[1-4] which has a similar latency period of between 3 months and 1 year. However, 2 of the cases reported did not present abnormalities in the distribution of fatty tissue,[1] suggesting that other factors may be implicated in the pathogenesis. In most studies, a greater prevalence of lipodystrophy associated with protease inhibitors was seen in women,[6,7] whereas angiolipomas—both associated with protease inhibitors and idiopathic[1]—are more frequent in men.[5] Also, in 1984, 7 homosexual men were described with multiple angiolipomas but who had no known HIV infection and were not undergoing antiretroviral treatment.[8] These observations suggest that infectious agents and genetic factors (sex, individual predisposition, familial traits) could be implicated in the development of these tumors. Up until now, the known cases have been found in the early stages of HIV disease and were patients responding favorably to antiretroviral therapy, suggesting that serious immunosuppression is not a predisposing factor.

In previously reported patients, and in the case described here, antiretroviral drugs other than protease inhibitors were used, including nucleoside reverse transcriptase inhibitors. However, these drugs have not been linked to the development of adipose tissue tumors, despite their capacity to produce lipodystrophy.[9]

Although the development of angiolipomas has been known to be halted by substituting one protease inhibitor for another,[3] changes to the antiretroviral treatment of these patients are not generally considered justified. Furthermore, it is worth noting that in the present case the angiolipomas continued to appear after indinavir was substituted by another protease inhibitor, nelfinavir.

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