

CASE REPORT

Cutis marmorata telangiectatica congenita and chronic autoimmune urticaria in a young man

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ABSTRACT

A 20-year-old man with mental impairment, was referred to us for evaluation of recurring idiopathic urticaria episodes, characterized by a diffuse spreading of wheals and severe itching lacking response to traditional antihistamines. Upon physical examination, he showed a persistent, generalized, reticular, red-bluish vascular skin pattern in association with diffuse arborizing telangiectasias. Such lesions were present from an early age. Laboratory and instrumental tests, performed in order to exclude any condition associated with livedo did not evidence pathological results. He was found to be positive for antinuclear autoantibodies (ANA; 1:640). Histopathologically, numerous dilated capillary vessels associated with sparse extravasated erythrocytes were observed in the upper dermis. We performed an autologous serum skin test (ASST), which resulted in a positive, suggesting an autoimmune basis of the condition. On the basis of clinical and histopathological findings, and in the absence of other clinical and laboratory data suggesting other neoplastic, immunological or systemic diseases, the diagnosis of cutis marmorata telangiectatica congenita (CMTC) associated with chronic autoimmune urticaria (CAIU) was made. CMTC is a rare congenital vascular disorder, consisting in an anomalous, persistent, red-bluish marbling of the skin, that can be associated with a wide spectrum of cutaneous and extracutaneous anomalies. In our case, neither physical examination nor instrumental investigation demonstrated any of these anomalies, with the exception of cognitive impairment. We report this case because of the rarity of a diagnosis of CMTC in an adult patient, because this condition has almost always previously been diagnosed in infancy, or it comes to observation because of the presence of associated disorders, as in our case for chronic urticaria.

Key words: cutis marmorata telangiectatica, chronic urticaria, vasculitis, sneddon's syndrome, autologous serum skin test, congenital vascular disorders.

INTRODUCTION

Cutis marmorata telangiectatica congenita (CMTC), is an uncommon congenital vascular disorder, attributed to mosaicism of a post-zygotic mutation, consisting in an anomalous, persistent, red-bluish marbling of the skin, already present at birth or developing in the following years.^{1,2} This clinical entity may present in association with a variety of cutaneous and extracutaneous anomalies.

A wide spectrum of morbid conditions can be associated with a livedoid aspect of the skin, so that sometimes it is difficult to identify the underlying related diseases which is more often of a systemic nature.

CASE REPORT

A 20-year-old man was referred to us for observation for evaluation of recurring idiopathic urticaria episodes,

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that had been affecting him for 3 years and characterized by a diffuse spreading of wheals and severe itching lacking response to traditional antihistamines. There was no family history of dysmetabolic, cardiovascular, neoplastic or cutaneous diseases. His personal history revealed that he was born after a full-term pregnancy and his development was normal until the age of 3 months; at that time his growth rate slowed, producing learning disabilities and a progressive, idiopathic, mild mental retardation (intellective quotient = 50).

Furthermore, during the physical examination we noted a persistent, generalized, reticular, red-bluish vascular skin pattern (involving the face, limbs and trunk), in association with diffuse arborizing telangiectasias (Figs 1 and 2). Such lesions were asymptomatic. Unfortunately, because of the mental retardation of the patient, who wasn't aware of his medical status, and because of the sporadic and occasional attendance of his parents in the clinic, it was impossible to clarify the exact onset of the reticular vascular skin pattern and if it remained unchanged since development. Laboratory tests, performed in order to exclude any condition associated with livedo (complete blood count, inflammation markers, liver and kidney function tests, total proteins, serum and urinary electrolytes, tumor markers), did not evidence pathological results. During immunological investigation, antinuclear autoantibodies (ANA), documented by indirect immunofluorescence using Hep-2 cells as substrate and by enzyme immunological



Figure 1. Reticular, red-bluish vascular skin pattern involving superior limbs and trunk.



Figure 2. Detail of the left arm.

assay (EIA), were found to be positive (1:640) with a homogeneous pattern. Antimitochondrial (AMA), anti-extractable nuclear antigens (ENA), anti-thyroid, anti-platelets, anti-LAC and anti-cardiolipin autoantibodies resulted negative. No clue of internal malignancy was found on chest X-rays and ultrasonography of the abdomen. In spite of our patient's mental retardation, a magnetic resonance imaging (MRI) demonstrated a normal morphology of the brain. The nailfold capillaroscopy was normal. Pharmacological anamnesis was negative. In order to get further information about the nature of urticaria episodes affecting our patient, we performed an autologous serum skin test (ASST), which was positive, suggesting an autoimmune basis of the condition.

Histopathological examination of a skin biopsy taken from the right thigh showed numerous dilated capillary blood vessels in the upper dermis associated with a sparse perivascular infiltrate of lymphocytes and histiocytes. No signs of vasculitis were demonstrated (Fig. 3). Direct immunofluorescence, performed on perilesional skin, was negative.

On the basis of clinical and histopathological findings and in the absence of other clinical and laboratory data suggesting other neoplastic,

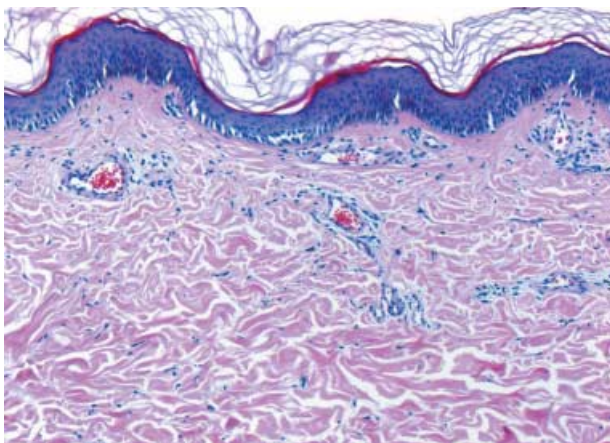


Figure 3. Numerous dilated capillary blood vessels in the upper dermis associated with sparse extravasated erythrocytes.

immunological or systemic diseases, the diagnosis of CMTC accompanied by chronic autoimmune urticaria (CAIU) was made.

DISCUSSION

Cutis marmorata telangiectatica congenita is an uncommon congenital vascular disorder, attributed to mosaicism of a post-zygotic mutation, consisting in an anomalous, persistent, red-bluish marbling of the skin, that may involve a part or the whole body.^{1,2} The lesions are usually present already at birth, but sometimes the onset of the disease can take place in the immediately following months or years, as occurred in our patient.² This clinical picture of fixed cutis marmorata can be associated with other cutaneous anomalies, such as telangiectasias and dilatation of big vessels. In some patients, atrophy and/or ulceration of the epidermis may occur.¹ Cutaneous histopathological examination shows in most cases a dermal capillary dilatation but in some patients the vasculature appears normal.³

Moreover, beside cutaneous features, in 25–50% of cases, a wide spectrum of other congenital abnormalities can be observed:^{2,4} cardiovascular (especially involving heart and big vessels), neurological (psychomotor retardation, hydrocephalus) ocular (strabismus, glaucoma), skeletal (joint laxity, syndactyly and other malformations), visceral (anal atresia, elevation of right diaphragm), urological and genital defects.² In addition, Gerritsen *et al.*, in a review of

18 cases,² have described other cutaneous anomalies that can be associated with CMTC, such as hemangiomas, nevus anemicus, café-au-lait spots and lipomas.

In our case, neither physical examination nor instrumental investigation demonstrated any of these anomalies, with the exception for cognitive impairment, which is a symptom of the CMTC clinical picture.

A wide spectrum of morbid conditions can be associated with a livedoid aspect of the skin, so that sometimes it is difficult to identify the underlying related diseases, which are more often of a systemic nature.⁵ In our case, clinical and immunological profiles of systemic lupus erythematosus (SLE) were absent: the positivity of ANA (1:640) might, in our opinion, rather be related to the frequent urticaria episodes occurring in the patient, that we interpreted as autoimmune on the basis of the clinical picture (diffuse wheal and flare response, severe itching, lacking response to antihistamines) and the positivity of ASST.^{6,7}

In addition, several other disorders could be excluded in our patient through the absence of fitting clinical features, such as antiphospholipid syndrome, vasculitis (panarteritis nodosa, thromboangiitis obliterans, Wegener's granulomatosis, Churg–Strauss, Kawasaki and Behcet's diseases), dermatomyositis and mixed connective tissue disease (Table 1).

The long-lasting clinical picture, in association with the lack of pathological findings of laboratory (paraneoplastic markers included) and instrumental investigations could lead us to exclude a possible neoplastic disease. Sneddon's syndrome⁸ (characterized by the association of livedo racemosa and cerebrovascular ischemic events, generally occurring in young adults) could at the present time be excluded on the basis of the lack of cerebrovascular involvement, documented by a MRI scan. Nevertheless, in Sneddon's syndrome, a livedoid aspect may sometimes be noticed before the development of cerebrovascular damage, so that a neurological long-term follow up is necessary for patients with livedo reticularis.

As previously mentioned, the pharmacological anamnesis was completely negative.

We report this case because of the rarity of a diagnosis of CMTC in an adult patient, because this condition is almost always diagnosed in infancy, or

Table 1. Differential diagnosis of the livedoid picture in adulthood

Systemic vasculitis forms:
panarteritis nodosa
microscopic polyangioitis
Wegener's granulomatosis
Churg–Strauss syndrome
Horton's arteritis
Kawasaki's disease
Behçet's disease
Antiphospholipid syndrome
Sneddon's syndrome
Thromboangiitis obliterans
Erythema ab igne
Septic vasculitis
Disseminated intravascular coagulation (DIC)
Hemolytic uremic syndrome
Thrombotic thrombocytopenic purpura
Endocarditis
Connectivitis:
dermatomyositis
lupus erythematosus
mixed connective tissue disease
Others

it comes to observation because of the presence of associated disorders, as in our case for CAIU.^{1,9,10}

Moreover, it's worth remarking how difficult it can be for the clinician to deal with a livedoid picture because, although livedo can be diagnosed immediately on simple physical inspection, it is often very difficult to identify the underlying correlated disease, which is generally of a systemic nature (Table 1).⁵

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