

Amantadine-Induced Livedo Reticularis: a case report

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Abstract: Livedo Reticularis refers to a reticular red-violaceous discoloration of the skin. It is secondary to organic or functional disorders of the dermal arteries or arterioles. We report the case of a woman with Parkinson's disease and she developed a Livedo Reticularis resulting of Amantadine.

Keywords: Livedo Reticularis, Amantadine, Parkinson disease

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I. Introduction

LR is a physiological, vasospastic response of cutaneous microvasculature to cold or systemic disease but it can also be induced by drugs like Amantadine which is a synthetic antiviral agent and today it is more commonly used in Parkinson's disease; The first description of livedo reticularis resulting of amantadine was did by Shealy in 1970 (1), It is a reversible side effect, with a variable clinical course.

II. Case report

A 60-year-old woman with Parkinson's disease that started at age 50 who underwent subthalamic nucleus electrode placement for deep brain stimulation two years ago and she uses amantadine in association with carbidopa and levodopa. She had noticed erythematous bluish lesions of lacy aspect, predominantly on the lower limbs but also affected the upper limbs, aggravated by cold temperature, for around 2 weeks. The patient reported no other joint symptoms. On examination were observed linear maculous lesions of erythematous-bluish color and lacy aspect on the lower limbs (figure1) and the upper limbs (figure2). No ulcerated lesions were evident, no signs of atrophic scars (figure1).

The laboratory investigation included a complete blood count, antinuclear factor, VDRL/TPHA, rheumatoid factor, lupus anticoagulant and serologies for hepatitis B and C were all normal. The hypothesis of Livedo Reticularis associated with the use of amantadine was considered, the patient's dose of amantadine was decreased from 300 mg to 100 mg twice daily because her neurological condition benefited from amantadine and the patient refused to suspend completely her medication. The outcome was favorable, her lesions gradually decreased.



Figure 1: Livedo reticularis affecting the lower limbs: Linear maculous lesions of erythematous-bluish color and lacy aspect on lower limbs



Figure 2: Livedo reticularis affecting the lower limbs: Linear maculous lesions of erythematous-bluish color and lacy aspect on 1 upper limbs

III. Discussion

Livedo reticularis (LR) is a complex clinical syndrome characterized by transient or persistent, blotchy, reddish-blue to purple, net-like cyanotic pattern caused by factors that reduce blood flow to cutaneous arterioles with secondary widespread dilatation of the dermal peripheral veins(2). LR may be physiologic and primary or secondary to intravascular obstruction or vessel wall disease. There are many causes of secondary LR such as hematologic autoimmune conditions, neoplasia and lymphoma, connective tissue diseases, infections, some neurological conditions and also medications (3-4).

Although it has been reported that LR is most often localized on the lower extremities of patients, upper extremities can be affected as well, as seen in our patient (5).

Amantadine, a synthetic antiviral agent currently used as treatment for Parkinson disease, fatigue in multiple sclerosis, or chronic hepatitis C and other neurologic disorders, is well known cause of drug-induced LR(6).

LR develops in up to 40% of patients taking amantadine, it can occur after the introduction of amantadine or after a delay taking amantadine as was described in our case (7). Our patient was on a stable dose of amantadine (300 mg daily), without any modifications to prescription and after two years she developed LR.

The pathophysiology of amantadine-induced livedo is still not fully known. According to some authors, in cases of LR induced by amantadine, the vascular pattern is consistent with a physiological rather than pathological etiology of livedo (8).

It is a reversible side effect; the resolution of the amantadine-induced livedo can take several months after drug stopping (9). Since amantadine improves neurological symptoms especially dyskinesias, uncomplicated LR is not considered an indication for discontinuation of amantadine (7).

IV. Conclusion

Livedo reticularis is a well known cutaneous adverse effect of amantadine but it is not always noticed by doctors and it is important to report it in the literature to increase awareness amongst neurologists of this association.

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