Case Report

Sneddon syndrome associated with antiphospholipid syndrome: Clinical descriptions and a literature review

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ABSTRACT

Sneddon syndrome is a rare non-inflammatory obliterator vasculopathy, characterized by the association of cardiovascular (arterial hypertension, intermittent claudication, and coronary artery disease) and neurological events (ischemic stroke, headache, dizziness and convulsions), and livedo reticularis/livedo racemosa. The case is presented of a woman admitted with an ischemic neurological disease, hypertension, vascular problems, and skin lesions. The skin biopsy was classified as surface perivascular lymphocytic dermatitis, suggestive of occlusive lesion.

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Síndrome de Sneddon asociado a síndrome antifospholípido: descripciones clínicas y revisión de la literatura

RESUMEN

El síndrome de Sneddon es una rara vasculopatía no inflamatoria, obliterante, caracterizada por la asociación de eventos cardiovasculares (hipertensión arterial, claudicación intermitente y enfermedad coronaria), neurológicas (accidentes cerebrovasculares isquémicos, cefalea, vértigo y convulsiones) y livedo reticularis de tipo racemosa. Presentamos a una mujer que ingresa con un cuadro neurológico isquémico, hipertensión arterial, problemas vasculares y lesiones en piel. La biopsia de piel se catalogó como dermatitis perivascular superficial linfocitaria, sugestivo de lesión oclusiva.

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Introduction

Sneddon syndrome (SS) described in 1965, is a non-inflammatory, obliterative thrombotic vasculopathy, characterized by the association of ischemic cerebrovascular events and livedo reticularis (LR) of racemose type. It is estimated that the incidence of SS is 4 per million people per year and predominantly affects young women.

Neurological events such as transient ischemic disorders, headache, dizziness and convulsions, among others, can occur. The most frequent neurological manifestation is the transient ischemic attack, often in the territory of the middle cerebral artery, which entails contralateral hemiparesis, aphasia or visual field defects.

LR is caused by stenosis and occlusion of the small dermal arteries which lead to the reduction of the blood flow, causing decreased supply of oxygen in the affected vessels, producing the appearance of the skin in a reticular shape of purple or violaceous-cyanotic color; it mainly affects the legs and arms, but it can also involve the buttocks and trunk, and it is aggravated by cold and pregnancy.

In SS the etiology is uncertain, in most cases is idiopathic, and it can be associated with autoimmune diseases such as systemic lupus erythematosus, antiphospholipid syndrome, Behçet’s disease and mixed connective tissue disease.

Below is reported the case of a woman admitted with a neurological condition, vascular problems and skin lesions; the clinical suspicion and the diagnostic aids allowed to establish the diagnosis.

Case report

A 41-year-old woman, coming from Chiclayo, was admitted to the emergency room. The patient consulted due to a holocranial headache of 7 days of evolution, of mild to moderate intensity, not associated with any other symptoms. Dysarthria and hemiparesis of the right hemibody were associated the day when she entered the emergency department.

As a relevant antecedent, at the age of 22 years the patient was diagnosed with high blood pressure with irregular treatment of enalapril and losartan. She also has the antecedent of diagnosis of antiphospholipid syndrome (APS) at the age of 26 years, without adherence to treatment and without having proper controls. As other antecedents, she refers having four pregnancies, one spontaneous abortion before 20 weeks, and three live births, 2 of which were premature with preclampsia.

On physical examination she entered with a blood pressure of 170/120 mmHg and a heart rate of 124 beats/min. Pallor and LR were observed in the skin of the upper and lower limbs. Thorax and abdomen within normal parameters, neurological examination: awake, with dysarthria, positive right Babinski sign, right motor deficit, muscle strength of 4/5 in the right lower limb and 0/5 in the right upper limb. Glasgow Scale: eye opening 4/5, motor response 6/6 and verbal response 2/5, giving a score of 12/15.

A magnetic resonance imaging of the brain was done during the hospitalization, evidencing cortical-subcortical and white matter lesions (Fig. 1).

The skin biopsy was diagnosed as superficial perivascular lymphocytic dermatitis suggestive of occlusive lesion, confirming the LR.

An echocardiogram was also performed, showing a moderate mitral insufficiency, with mild concentric left ventricular hypertrophy. The fundoscopy did not show vasculitic lesions, but a cataract of the right eye was evidenced incidentally. In addition, bilateral diffuse nephropathy was found in the abdominal ultrasound.

In the immunological analyses were found: anti-B2 glycoprotein IgG: positive, antiphospholipid IgG: positive; anti-Smith, anti-lupus, ANA, ANCA, and ANTI-DNA, all were negative.

With the clinical suspicion and due to the fact of having LR along with the multi-infarct ischemic stroke, it was made the diagnosis of SS, associated with antiphospholipid syndrome by the immunological analyses.

The evolution of the patient was slow but favorable; and she was discharged 14 days after admission with oral anticoagulants.

Discussion

The diagnosis of SS is based mainly on the skin biopsy and abnormal findings in the neurologic examination or in the magnetic resonance imaging. The clinical case we presented, met all the criteria to be classified as SS, in addition to this, it was evidenced to be associated with APS and other general problems such as mitral insufficiency, left ventricular hypertrophy, cataract on the right eye and diffuse bilateral nephropathy.
The APS is defined as the presence of lupus anticoagu-
lant antibodies or anticardiolipin antibodies associated with
vascular thrombosis or specific complications of pregnancy.6
The association of APS and LR has been closely related due
to the thrombosis of the subcutaneous arteries causing the
reticular shaped purpuric coloration.5

Schellong et al., proposed 2 classifications for grouping
the SS: Primary SS when no associated etiology is found;
and SS secondary to an autoimmune disorder (APS) or to
thrombophilies.7 However, approximately 60% of cases with
SS have been associated with APS, indicating that this syn-
drome may be a distinct entity or perhaps a group of different
disorders. Nevertheless, the existence of antiphospholipid
antibodies suggests that the symptoms are secondary to
thrombotic processes.

In our case we found other symptoms such as headache,
hypertension, valvular heart diseases, diffuse nephrop-
athy, ocular involvement and history of obstetric pathology.
All these clinical symptoms are explained by the chronic
occlusive compromise along with the pathology of antiphos-
pholipid antibodies.

In the natural course of patients with SS, neurological
events such as headache (62%) and dizziness (54%) have been
recorded. In that study it was found that 54% had transient
ischemic disorders during 6 years.7

It is important to determine the occurrence of cardiac man-
ifestations in patients with SS. The studies suggest that the
valvulopathy could be a source of emboli and a possible cause
of the ischemic stroke. Multiple valve degenerations that
require complex surgical interventions have been reported.8

Regarding the patients with SS without APS it was found
that 52% had valvulopathies.7

It is necessary to be acquainted with the clinical features
and the diagnosis of the SS in order to be able to investigate the
pathogenesis and to obtain more etiological subgroups. Future
therapy should identify the diverse treatment modalities for
different etiological subgroups. The use of calcium blockers
can reduce the skin symptoms, but it does not diminish the
cerebrovascular complications,9 however, a recent research
has shown improvement with the use of prostaglandins E1
(alprostadil) during 6 months.10 It has been reported a case of
improvement of the neurological and cognitive symptoms in
one patient, after 8 months of treatment with monthly intra-
venous cyclophosphamide.11

The prevention of smoking and the prevention of the use of
oral contraceptives with estrogens can prevent or reduce the
severity of the neurological symptoms and should be taken
into account for this group of patients.8

In conclusion, in patients diagnosed with SS, an exhaustive
search for autoimmune processes, thrombophilias and others,
must be carried out. In addition, damage to other organs (car-
diac, renal, neurological, ocular, etc.) should be prevented or
diagnosed.

Ethical disclosures

Protection of human and animal subjects. The authors
declare that the procedures followed were in accordance with
the regulations of the relevant clinical research ethics commit-
tee and with those of the Code of Ethics of the World Medical
Association (Declaration of Helsinki).

Confidentiality of data. The authors declare that they have fol-
lowed the protocols of their work center on the publication of
patient data.

Right to privacy and informed consent. The authors have
obtained the written informed consent of the patients or sub-
jects mentioned in the article. The corresponding author is in
possession of this document.

Conflict of interest

The authors declare they do not have any conflict of interest.

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