

Leg ulcers and anticardiolipin antibodies

Úlceras de pernas e anticorpos anticardiolipinas

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Abstract: Prothrombotic phenomena are described in leg ulcers of different etiologies. This work attempts to verify the prevalence of anticardiolipin antibodies in such patients. For this purpose, 151 patients with leg ulcers and 150 control patients were studied and it was obtained clinical data and anticardiolipin antibodies titers. Anticardiolipin antibodies were detected in 7,2 % of the patients from the ulcer group against 1.3% of the patients in the control group ($p=0.01$). However, clinical characteristics were not different in patients with and without anticardiolipin antibodies.

Keywords: Antibodies, anticardiolipin; Diabetic foot; Venous insufficiency

Resumo: Fenômenos pró-trombóticos são descritos em úlceras de perna de diferentes etiologias. Neste trabalho, procurou-se verificar a prevalência de anticorpos anticardiolipina nestes pacientes. Para isso, estudaram-se 151 pacientes com úlcera de pernas e 150 controles, sendo obtidos dados clínicos e títulos de anticorpos anticardiolipina. Os anticorpos anticardiolipina foram detectados em 7,2% do grupo úlcera e 1,3% do grupo controle ($p=0.01$), todavia, as características clínicas não foram diferentes nos pacientes com e sem anticorpos anticardiolipina.

Palavras-chave: Anticorpos anticardiolipina; Insuficiência venosa; Pé diabético

Prothrombotic phenomena are described in patients with leg ulcers and can somehow contribute not only for the beginning of the process but also to the difficulty in healing.¹ Deficiencies of protein C, S and antithrombin III, genetic changes in the prothrombin gene and in the factor V Leiden have been identified in these patients.¹ Antiphospholipid antibodies are among the most common causes of acquired thrombophilia and their presence seems to be more common in patients with leg ulcers than in the general population.^{2,3} The main antiphospholipid antibodies are the anticardiolipins (aCIs) Ig G and IgM, lupus anticoagulant and the β_2 glycoprotein I.⁴

Mackenzie *et al*¹ when studying 88 patients with leg ulcer found aCIs in 14% of them. Alagözlü *et al*² analyzing 70 patients with *diabetes mellitus* (35 with ulcers and 35 without) found a higher prevalence of aCIs in the group of patients with ulcerations. The

presence of aCIs is linked to the genetic profile and therefore subject to variability depending on the population examined.

We studied 151 patients with leg ulcers comparing them with 150 controls (patients without ulcers who sought treatment for soft tissues rheumatism) for prevalence of aCIs IgG and IgM. Neither the patients nor the controls had malignancy, inflammatory rheumatic disease or were taking drugs associated with positivity for aCIs (propranolol, chlorpromazine, γ -interferon, procainamide, anti-TNF- α).⁴

In the group of patients with ulcer 81 had venous ulcers, 50, diabetic and 30 arterial. For inclusion as venous ulcer the patients had to present varicose vein, history of venous thrombosis, evening edema, dermatitis and/or lipoesclerodermatose. For inclusion in the diabetes group they should have

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proven previous history of *diabetes mellitus* or fasting glucose above 126mg/dl or, still, 2h postprandial glucose above 200mg/dl.⁵ For inclusion in the arterial group patients should present ratio ≤ 0.7 between systolic pressure of lower and upper limb.⁶ It was collected data about the length of the disease (ulcer), tobacco use, previous history of deep venous thrombosis and degree of pain attributed to ulcers according to the visual analogue scale where it was assigned zero to absence of pain and 10 to the highest possible degree of pain. It was carried out a physical examination with attention to the number of wounds and the size of the ulcerated area (obtained by multiplying the vertical and longitudinal diameters of the area).⁷ When there was more than one ulcer the values obtained separately were added.

Anticardiolipin antibodies were searched by ELISA (Euroimmun®, Lübeck, Germany) according to a technique recommended by the manufacturers. It was considered positive aCLs values above 10U/ml.

It was found a prevalence of 7,2% (n=12) of aCLs in the ulcer group against 1,3% (n=2) in the control group. It was found aCLs type IgG in low titers in the control group. It was found aCLs in 12 patients (7.2%) in the ulcer group being values of aCL IgG between 10.2 and 47.9 GPL/ml and values of aCL IgM

between 11.2 and 65.7 MPL/ml. Comparing the different types of ulcer with the control population it was found increase in aCLs in the venous forms (p=0.02) and in the diabetic forms (p=0.01) but not in the arterial forms (p=0.31).

Patients with ulcer and presence of aCLs did not differ from those patients without the antibody related to gender (p=0.98), size of ulcers (p=0.6), pain severity (p=0.67), ulcer numbers, (p=0.38) and average time of existence of ulcers (p=0.69). Tobacco exposure was more frequent in patients with ulcers and presence of aCLs (p=0.012).

The presence of aCLs in patients with leg ulcer is not well understood. They can either be the consequence of repeated local infections or might be present before the onset of ulcer once leg ulcers are part of the clinical spectrum of antiphospholipid syndrome.^{8,9} It might be important to recognize its role for the treatment of leg ulcers as these manifestations respond to the use of anticoagulant and anti-malarial drugs.

It was concluded that there is increase of aCLs in patients with venous and diabetic ulcers but not in patients with arterial ulcers. The clinical characteristics of ulcers do not help to identify patients who are aCLs positive. □

REFERENCES

- Mackenzie R, Ludlam CA, Ruckley CY, Allan PI, Burns P, Bradbury AW. The prevalence of thrombophilia in patients with chronic venous leg ulceration. *J Vasc Surg*. 2002;35:718-22.
- Alagözli H, Bakici Z, Gülltekin F. Anticardiolipin antibody positivity in diabetic patients with and without diabetic foot. *J Diabetes Complic*. 2002;16:172-5.
- Alcaraz I, Lafre I, Wiart T, Lafon C, Forzy G, Modiano P. Leg ulcers and antiphospholipid antibodies: prospective study of 48 cases. *Ann Dermatol Venereol*. 1999;126:313-6.
- Khamashta MA, Hugues GRV. The clinical aspects of the antiphospholipid syndrome. In: Lahita RG, ed. *Systemic Lupus Erythematosus*, 2004; San Diego: Elsevier, p.1107-23.
- Culloch D. Screening for Diabetes mellitus. [Internet]. Versão 16.3 de outubro 2008. [acesso 5 Nov. 2008]. Disponível em: <http://www.uptodate.com/home/index.html>.
- Grey JE, Enoch S, Harding KG. ABC of wound healing: venous and arterial leg ulcers. *Br Med J*. 2006; 332: 285-8.
- Kantor J, Margolis DJ. Efficacy and prognostic values of simple wound measurements. *Arch Dermatol*. 1998; 134: 1571-4.
- Shoenfeld Y, Blank M, Cervera R, Font J, Rashi E, Meroni P-L. Infectious origin of the antiphospholipid syndrome. *Ann Rheum Dis*. 2006;65: 2-6.
- Weinstein S, Piette W. Cutaneous manifestations of antiphospholipid antibody syndrome. *Hematol Oncol Clin N Am*. 2008;22: 87-97.

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