Prevalence of an abnormal ankle-brachial index in patients with antiphospholipid syndrome with pregnancy loss but without thrombosis: a controlled study

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The antiphospholipid syndrome (APS) is characterised by recurrent arterial or venous thromboembolism, or pregnancy loss, in association with antiphospholipid antibodies.[1] The pathogenesis of the obstetric complications remains unclear—both antiphospholipid antibodies and atherosclerosis may have a role. The ankle-brachial index (ABI) is a bedside test which reliably identifies lower extremity peripheral artery disease in asymptomatic people.[2] Our hypothesis was that a diffuse vessel wall abnormality as detected by the ABI might be associated with the pregnancy morbidity in patients with APS. We studied patients with APS with previous pregnancy loss but no thrombosis and compared their ABI and vascular risk factors with those of healthy women. The study was approved by the ethics committee.

An 8 MHz Doppler probe was used to assess the ABI in 30 patients with APS who had pregnancy loss and in 30 healthy women of similar age and race. Data on cardiovascular risk factors, including hypertension, hypercholesterolaemia, diabetes, renal failure, smoking, and other variables, were collected for all subjects. Patients also had fasting blood tests for glucose, lipid profile, renal profile, and other variables. A ratio of the highest blood pressure from the posterior tibial or pedal arteries of each leg to the highest blood pressure from the brachial arteries <1.00 was considered abnormal.[3] Two different observers made the measurements; one did the measurements for the APS group and the other for the control group. The observers were not blinded for the clinical data. In our hands the intraobserver variation was 0.9% and the interobserver variation was 3%, consistent with reported figures.

Twenty patients had primary and 10 had secondary APS. Seven (23%) patients with APS had an abnormal ABI compared with none in the control group (χ^2 test, $p<0.02$; table 1). Four (57%) of these had primary APS and three (43%) had secondary APS. Figure 1 shows the distribution of the ABI values in patients and controls. The average age was 5.3 years higher in the APS group (Wilcoxon's test, $p<0.04$). The waist:hip ratio was higher in the APS group than in the control group (average values 0.82 and 0.78, respectively, Wilcoxon's test, $p = 0.0073$). No correlation between abnormal ABI and traditional cardiovascular risk factors or with the presence of antiphospholipid antibodies was found.

Table 1 Ankle-brachial index results

	APS (n = 30)	Controls (n = 30)	p Value
Abnormal ABI (<1.00)	7/30 (23)	0/30 (0)	<0.02
Primary APS	4/7 (57)		
Secondary APS	3/7 (43)		
Age (years), mean (range)	37.5 (29–48)	32.2 (18–49)	<0.04

Results are shown as No (%) unless stated otherwise.
APS, antiphospholipid syndrome; ABI, ankle-brachial index.

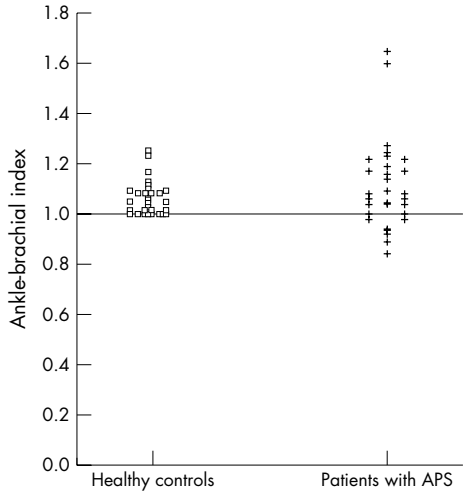

Figure 1 Scattergram showing the distribution of ABI values for the cases and controls. An abnormal ABI was defined as <1.0.

Baron *et al* showed that 19% of patients with primary APS (mean age 40 years) and previous thrombosis had an abnormal ABI compared with 4% of healthy controls.[4] Theodoridou *et al* found that patients with systemic lupus erythematosus (SLE) (mean age 39 years) also had a high prevalence of an abnormal ABI,[5] with 37% having an ABI of <1. It is known that premature or accelerated atherosclerosis is a major cause of death in SLE.[6 7]

In our study the increased prevalence of an abnormal ABI in patients with APS who had pregnancy loss suggests that these patients are at increased risk of atherosclerosis and/or that a diffuse vessel wall abnormality may be contributing to the pregnancy loss. This might be in combination with other mechanisms related to antiphospholipid antibodies. Some studies have suggested that antiphospholipid antibodies may be associated with accelerated atherosclerosis in patients with APS.[8–10] Taken together with our previous data showing that an abnormal ABI is associated with thrombosis in APS,[4] we suggest that a large vessel vasculopathy may be a contributing factor to both thrombosis and pregnancy loss in APS.

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Rheumatoid arthritis in Lebanese patients: characteristics in a tertiary referral centre in Beirut city

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Rheumatoid arthritis (RA) is a worldwide inflammatory joint disease with variable degrees of joint damage and extra articular manifestations (EAMs). Several studies have shown that the disease is less severe and has fewer EAMs in Mediterranean countries than in other geographical areas.[1–3] In Lebanon, there are no reliable data on its characteristics. Because differences in the clinical features require different practice guidelines, it is necessary to assess our population. We describe here the disease in a cohort of Lebanese patients with RA in our tertiary university hospital in the capital, Beirut.

We identified 97 patients with RA, above the age of 18, in the outpatient clinics of the rheumatology department over a 1 year period, starting March 2001. They all fulfilled the 1987 American College of Rheumatology (ACR) revised criteria.[4] All patients were evaluated according to a standardised data collection form, including demographic variables and disease history with clinical, biological, and radiological features, as well as details of treatment. Because RA severity does not have a widely accepted definition, we assessed our patients according to the following criteria:

- The 28 joint count Disease Activity Score (DAS28)[5]
- The presence of typical radiological lesions as defined by the 1987 ACR revised criteria in both hands and wrists in recent radiographs (within 1 year)[4]
- The presence of total joint replacement surgery because of arthritic changes
- The modified version of the Health Assessment Questionnaire (MHAQ)[6]
- The presence of any EAMs: nodules, vasculitis or Felty's syndrome.

Demographic and clinical features were concordant with those in other Mediterranean countries (see table 1). Ten per cent of the patients were over 70 years and 25 (26%) had <2 years' disease duration. The disease was active (DAS28 >3.2) in 57 (59%) of the patients and highly active (DAS28 >5.1) in 14 (14%). Eight patients were in remission according to the DAS28 (<2.6)[5] and one according to the ACR criteria.[7] Radiographic damage was present in 74 (76%) patients with a mean (SD) Larsen score of 43.8 (34.9) on a scale of 0 to 170 in 34 joints of the hands (grade 0–5). Eleven patients had undergone total joint replacement surgery because of RA since the onset of their disease. The only observed EAM was subcutaneous nodules in 17 (18%) patients. Owing to the onset of the disease, all patients had used disease modifying antirheumatic drugs (DMARDs): two or more in 58 (60%); Currently 95 (98%) were being treated with DMARDs: methotrexate in 50 (52%) (mean dose of 13.7 mg/week), antimalarial drugs in 31 (32%), and leflunomide in 23 (24%).

This is the first study in an Arabic Mediterranean country, assessing the characteristics of what are, a priori, the most severe cases of RA in our country and especially in the greater Beirut area, as they were recruited from a tertiary university referral centre in the capital, an accessible referent city for Lebanese people living throughout our small country. Moreover, our data confirm the milder nature of the disease in an eastern Mediterranean country in comparison with northern Europe, even though this comparison is difficult in the absence of adjustments (table 1). A concern in our cohort is the relatively recent disease (<2 years in 25 (26%) patients), which may have led us to underevaluate the incidence of EAMs.

In conclusion, even though RA seen in our hospital has a benign systemic expression and lead to mild disability, it is a destructive disease despite the widespread use of DMARDs. This is an important feature, especially as the new and more aggressive disease suppressing treatment is expensive and we lack a universal third-party payer in our country. The current study provides information about Lebanese patients with the most severe RA, but another study evaluating the disease throughout Lebanon, called the SEVERA study (Severity of RA in the Lebanese population), is in progress.