In systemic sclerosis patients, Bosentan is safe and effective for digital ulcer prevention and it seems to attenuate the development of pulmonary arterial hypertension

Sr, SSc is a chronic connective tissue disease characterized by endothelial dysfunction and fibrosis of the skin and internal organs. Vascular dysfunction is one of the hallmarks of SSc and involves both the macro- and microvasculature. Many of the severe internal organ complications of SSc are vascular, including pulmonary arterial hypertension (PAH) and scleroderma renal crisis [1]. Patients with SSc are at high risk for the development of ischaemic digital ulcers (DUs), which occur in 35–60% of SSc patients. Bosentan treatment reduced the occurrence of new DUs in patients with SSc but had no effect on DU healing. Bosentan was well tolerated and may be a useful adjunct in the management of patients with SSc with recurrent DUs [2]. According to various series, PAH occurs in about 5–9% of SSc patients [3].

Fifty-four patients fulfilling the ACR preliminary criteria for the classification of SSc were enrolled in this study [4]. Twenty-eight patients had dcSSc and 26 had lcSSc. All patients have a history of DUs and Bosentan therapy was started for DU prevention. Bosentan was administered at a dose of 125 mg/day for the first month and 250 mg/day for the resting observational period. Patients with known manifest PAH, hemodynamically significant valvular disease, a history of uncontrolled systemic hypertension, hyperlipidaemia, cardiac failure, hepatic failure, diabetes, cerebrovascular diseases, peripheral vascular diseases, coagulopathy, smokers and pregnant or breastfeeding women were excluded. Written consent was obtained from the subjects according to the Declaration of Helsinki and the study was approved by the ethics committee of Sapienza University of Rome.

Doppler echocardiography was performed by a senior cardiologist at the baseline and every 12 months of the Bosentan therapy. According to the European Society of Cardiology recommendations, systolic pulmonary arterial pressure (sPAP) was based on tricuspid regurgitation. Pulmonary hypertension was defined as sPAP >45 mmHg on echocardiography and confirmed at right cardiac catheterization (RHC) by a mean pulmonary arterial pressure (mPAP) >25 mmHg with a pulmonary capillary wedge pressure ≤15 mmHg [5].

The mean duration of Bosentan therapy was 41.4 months (s.d. 18.5). The DU episodes were 3.9 per year (s.d. 2.2). During the treatment period the DU episodes significantly (P < 0.001) decreased from 3.9 (s.d. 2.2) to 1.6 (s.d. 1.7). At baseline no patient presented with echocardiographic indirect signs of PAH and no one was in New York Heart Association (NYHA) functional class III or IV (44 patients were in class I and 10 patients were in class II). At baseline the mean value of sPAP was 29 mmHg (s.d. 6.3). Twenty patients had an early capillaroscopic pattern, 15 an active pattern and 19 a late pattern according to Cutolo et al. [6]. The baseline mean value of sPAP was 28 mmHg (s.d. 5.4) in patients with an early capillaroscopic pattern, 28.8 mmHg (s.d. 8.2) in those with an active capillaroscopic pattern and 30.2 mmHg (s.d. 5.9) in those with a late capillaroscopic pattern. No significant differences of sPAP (P > 0.05) were observed in the three capillaroscopic groups.

The mean value of sPAP did not show significant (P > 0.05) differences from baseline [29 mmHg (s.d. 6.3) vs 30 (s.d. 7.9)] (Fig. 1). After 56 months of Bosentan therapy, one patient (1.8%) showed a significant increase in sPAP (51 mmHg) and PAH was confirmed by RHC. Throughout the treatment period, transaminase levels were not significantly elevated (>3 times the upper limit of normal) in any of the patients. Bosentan treatment was stopped after 9 months in one patient because of hepatotoxicity.

The results of this study demonstrate that resting sPAP did not increase within 41.4 months (s.d. 22.5) of follow-up in SSc patients who underwent Bosentan therapy for DU prophylaxis. In our selected cohort of SSc patients the prevalence (1.8%) and yearly incidence (0.52%) are lower than those reported by larger randomized studies. In fact, the ItinéAIR-Sclerodermie programme, conducted in a large cohort of patients with SSc from specialized scleroderma centres in France, demonstrated that the prevalence of SSc-PAH and the yearly incidence were significantly lower than those reported by other randomized trials.

Fig. 1 Mean value of systolic pulmonary arterial pressure pre- and post-therapy with Bosentan.
Since SSc-PAH is a vascular disease, we can suppose that an early start of Bosentan therapy can reduce the progression of pulmonary vascular impairment. Therefore large randomized controlled trials are needed to confirm our preliminary data.

Rheumatology key message

- Systolic pulmonary arterial pressure did not increase in SSc patients who underwent Bosentan therapy for digital ulcer prophylaxis.

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Prevalence of rheumatoid arthritis in an urban population of Algeria: a prospective study

Sir, RA is the most common chronic inflammatory disease worldwide and is an important health concern. Recent studies show a prevalence of ~0.5% in adults in Western countries [1]. However, there have been no published reports to estimate the prevalence of RA in Algeria or the other countries of North Africa, which have a Caucasian population of ~170 million people, with the exception of an unpublished thesis from Egypt (J. Abdel-Wahab, Minia University, Minya, Egypt).

The aim of this study was to calculate the prevalence of RA in the urban district of Barika, Algeria, and to estimate the prevalence of RA for the entire population of Algeria. The Barika district was chosen as an optimal site for investigating the prevalence of RA because of its widespread health insurance coverage (85% of the local population) and the presence of a rheumatology unit.

A prospective, population-based survey was conducted that included 125 253 people from the urban area of Barika, of which 52 504 were adults (26 358 males, 26 146 females). Orthopaedists and general practitioners working in the local area were asked to take part in the study by referring all patients who presented with potential signs of RA (those taking DMARDs, those on long-term glucocorticoids or those diagnosed with arthritis) to the only rheumatologist in the district (S.S., one of the authors) for further evaluation. The diagnosis of RA was either confirmed or rejected and laboratory tests were carried out. Patients already being treated for RA at the local rheumatology unit were also included in the study.

The rheumatologist applied the 1987 ACR criteria (positive if ≥4 points) when assessing patients for the diagnosis of RA. In cases with a confirmed diagnosis of RA, demographic, physical, laboratory and imaging data were collected and the main residence of the patient was confirmed and recorded. Data were collected using

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