findings performed on 9 patients revealed edematous synovium with mild infiltrations of lymphocytes, and no hyperplasia. Various signs and symptoms can be found in HOA. The presence of digital clubbing and periostitis of the long bones is the minimum for the diagnosis of HOA. A detailed history and physical examination enable one to find other signs and symptoms of the disease. Some of the so-called minor symptoms are not always present, and are mostly associated with progression of the disease. These are erythema, hyperhydrosis, velvety-like skin, edema of periangual tissue, skin changes over the affected joints, and an unpleasant odour of perspiration. Periostal reaction is the most dependent factor for less stable symptoms and signs of HOA. On the other hand, hypotonia and general fatigue, lionel face and cutis verticis gyrata, if present, are constant symptoms. Other constant signs are tight skin and a sensation of warmth and burning in the hands and deeper nasolabial fold.

In conclusion minor symptoms and signs of primary HOA can be divided into variable and stable ones. Their duration and level of expression depend on the progression of the disease. More stable signs and symptoms are more reliable in the diagnosis of HOA, but both can be helpful in establishing the diagnosis.

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References

Prostaglandin E1 restores the levels of vWF and ACE in chronic critical limb ischemia in systemic sclerosis

Sirs,

Systemic sclerosis (SSc) is a multisystem disease that induces tissue fibrosis and involves mainly the microvascular system leading to endothelial damage and profound modification of the control of the vascular tone (Raynaud’s phenomenon) (RP). The modification of the vessel wall provokes a progressive reduction of vessel patency that leads to chronic critical limb ischemia. The injury to the endothelium is reflected in changes in the circulating levels of endothelial cell markers such as von Willebrand factor antigen (vWF) and angiotensin converting enzyme (ACE).

Prostaglandins have been successfully employed in the management of RP and in particular in the control of ulcers of the finger-tips and lower limbs. In particular, prostaglandin E1 (PGE1) has been employed in the treatment of chronic critical limb ischemia in several diseases (1) and in RP in SSc (2). A potent vasodilator effect, as well as the inhibition of platelet adhesion and aggregation, may explain the significant increase in peripheral blood flow after intravenous infusion of PGE1. However, despite the rapid and almost complete removal of PGE1 after lung passage, the molecule still has beneficial long-term effects. The drug has also been demonstrated to reduce circulating immunocomplex levels in connective tissue diseases (3) and to inhibit superoxide generation (4). The aim of our work was to evaluate the influence of PGE1 on the plasmatic levels of the markers of endothelial cell injury in SSc. We report the efficacy of PGE1 in obtaining the significant restoration of vWF and ACE in SSc patients suffering from RP and fingertip ulcers.

Forty-five SSc patients (mean age 42.4 years, mean disease duration 9.5 years) with disabling attacks of RP complicated by digital ulcers, were selected for the study. After a week of wash out, PGE1 (Prostasmin®, Searle Pharma) was infused intravenously every day (60 mg) for 5 days: after consent was obtained, blood was drawn on the first day before starting the treatment and on the day after the end of the treatment. vWF and ACE levels were measured with an ELISA and a fluorimetric method, respectively. The patients reported the number of attacks of RP before and immediately after the treatment. The unpaired Student’s t-test was used for statistical evaluation.

In SSc, vWF was significantly increased and ACE significantly lowered with respect to the controls. Five days after the infusion of PGE1, both ACE and vWF returned to normal levels (Table I). The number of RP attacks was significantly reduced, from 5.2 attacks per day before the infusion to 1.1 attacks per day after the treatment. These data confirm the decrease of ACE and increase of vWF in SSc and show that PGE1 infusion may not only reduce the number of attacks of RP but may also significantly affect the levels of some markers of endothelial injury. Recently, PGE1 has been demonstrated to reduce, after a 4-week treatment, the levels of plasma endothelin in patients with intermittent claudication (5). PGE1 acts in particular on vascular tone, but may also exert a protective effect on endothelial cells. The mechanism that mediates the protective action of PGE1 on the endothelium with the potential reversal of endothelial injury is a matter of debate and may involve different pathways. PGE1 plasma levels may protect the endothelium against reperfusion injury (6), or against the damaging potential of reactive oxygen species (7) and protease neutrophil cytotoxicity (8). Indeed, PGE1 may inhibit leukocyte adherence and transendothelial migration (7-9); it may modulate humoral immune responses such as B cell activation or antibody production as well (15). Indeed, PGE1 has been shown to be effective in preventing vessel restenosis after vascular surgery and angioplasty (10).

The evidence that PGE1 restores the levels of markers of endothelial injury may support its frequent use in the management of early SSc before the damage to the endothelium is irreversible.

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Table I.

<table>
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<tr>
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<th>Before PGE1</th>
<th>After PGE1</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>vWF</td>
<td>260 ± 35 %</td>
<td>170 ± 44 %</td>
<td>P &lt; 0.01</td>
</tr>
<tr>
<td>ACE</td>
<td>2.9 ± 0.6 pM/ml/min</td>
<td>6.6 ± 1.1 pM/ml/min</td>
<td>P &lt; 0.001</td>
</tr>
</tbody>
</table>

358
is not easy in patients with renal insufficiency (2). This is a report of a patient with severe tophaceous gout and renal failure treated with hemodialysis.

A 63-year-old Japanese woman was admitted to our department for joint deformities and swelling and the size of the tophi did not change despite these treatments.

To our knowledge, this is a report of a patient with chronic inability to eliminate urate crystals appearing in the cartilage, synovial membrane, and soft tissues (3). In humans, the average urate pool size is about 1,200 mg and the turnover rate is also about 0.6 pools/day (3, 4). As the urate pool expands, deposits of urate crystals appear in the cartilage, tendon, and soft tissue (5). This patient had experienced an aggressive course of tophaceous gouty arthritis with extensive destruction of the IP and MTP joints. Decreased urinary excretion of urate caused by renal insufficiency and longstanding thiourea therapy may contribute to hyperuricemia and following tophaceous gout (6). Although allopurinol treatments corrected her serum urate concentration to less than 7.0 mg/dl, bony tophi were not improved by this therapy. For the resolution of tophi, serum urate level should be controlled to less than 6 mg/dl (7). In our case, the control of serum urate may not have been adequate; however, the dose of allopurinol had to be reduced due to renal failure. After the initiation of hemodialysis, her\n
References


Effects of hemodialysis on advanced bony tophi in a tophaceous gout patient with chronic renal failure

Sirs,

In most cases of gout, bony tophi can be conservatively controlled by therapies aimed at lowering serum urate concentrations (1). However, the management of gout

Letters to the Editor

Fig. 1. Radiographic changes in gout. (a) A classical “punched out” para-articular erosions with a sclerotic margin of both the metatarsophalangeal joints. (First admission: January 13, 1996); (b) 13 months after allopurinol treatment (February 24, 1997); (c) 18 months after the initiation of hemodialysis (October 6, 1999).