

Our findings are in direct contrast with those of Dundee *et al.*<sup>2</sup> A much larger study, of more than 200 subjects, would be required to rule out even a minor antiemetic effect of acupuncture (that is, a 10% difference between the groups). We chose, however, to limit our study to 46 subjects, as our results suggested that acupuncture at the P6 locus, in the way that we used it, is unlikely to be a clinically useful prophylactic for postoperative nausea and vomiting.

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## Facial flushing after intra-articular injection of steroid

Several systemic side effects of intra-articular injection of steroid have been described.<sup>1,5</sup> One of these is flushing, an unpleasant subjective sensation of warmth with erythema that affects the face and upper trunk. Whether it depends on sex, age, or disease has not been determined. Although it is generally considered to be a trivial complication<sup>5</sup> and has a reported frequency of less than 1%,<sup>1</sup> spontaneous complaints of flushing after injection of steroid from several patients led us to reassess the frequency and clinical importance of this reaction in a prospective study.

### Patients, methods, and results

We studied 130 consecutive patients attending this unit who required intra-articular steroid injection of one knee. Before injection they were specifically questioned about vasomotor instability (perimenopausal flushing, flushing with alcohol, and easy blushing). Each knee was aspirated "to dryness" by a superolateral approach, and 40 mg triamcinolone acetonide was then injected under low resistance. The occurrence of nine possible adverse reactions, including flushing, in the seven days after injection was determined with a questionnaire provided at the time of the injection. Patients were not told that flushing was the primary interest. Between four and six weeks later they were seen again to clarify and confirm their answers. Patients who reported flushing and subsequently needed further intra-articular treatment of the same knee were injected with either triamcinolone acetonide 40 mg or triamcinolone hexacetonide 20 mg. Subsequent adverse reactions were assessed as before. Statistical comparison between the groups was made with the  $\chi^2$  test with Yates's continuity correction.

Assessment of reactions was not possible for 26 patients who lost or failed to complete the questionnaire or who gave inconsistent reports and for four others who responded positively to every question. All 30 were excluded from the

#### Details of patients studied

	Patients who flushed (n=40)	Patients who did not flush (n=60)	Total (n=100)
Mean (SEM) age in years and range	66 (1.7) 35-82	63 (1.7) 32-88	64 (1.2) 32-88
Ratio of men: women	1:3.4	1:1	1:2.2
No (%) of patients with:			
Rheumatoid arthritis	13 (33)	23 (38)	36 (36)
Osteoarthritis	11 (28)	18 (30)	29 (29)
Pyrophosphate arthropathy	16 (40)	19 (32)	35 (35)
No (%) with previous motor instability	6 (15)*	6 (10)*	12 (12)*

\*All women.

analysis. The table shows the results for the remaining 100 patients, who had rheumatoid arthritis (36 patients), osteoarthritis (29), or pyrophosphate arthropathy (35). Flushing occurred in 40 and was serious in 15. It occurred at a mean interval of 19 (SEM 1.7; range 2-30) hours after injection and lasted for a mean of 36 (SEM 4; range 6-96) hours. It was associated with being female ( $\chi^2=7.9$ ,  $p<0.01$ ) but not with diagnostic category (rheumatoid arthritis  $\chi^2=0.65$ ,  $p>0.45$ ; osteoarthritis  $\chi^2=0.24$ ,  $p>0.45$ ; pyrophosphate arthropathy  $\chi^2=0.41$ ,  $p>0.45$ ), previous vasomotor instability ( $\chi^2=0.19$ ,  $p>0.45$ ), or age.

Twenty four patients who flushed needed a repeat injection in the same knee. All six who received triamcinolone acetonide reported flushing, whereas only nine of the 18 who received triamcinolone hexacetonide developed the reaction, which was reported to be less severe than before in all cases.

### Comment

Flushing was a common side effect of intra-articular steroid treatment, occurring in 40% of the documented patients (31% of the initial study group) and being unpleasant in 15% (12% of the initial group). The reaction was significantly more common in women ( $p<0.01$ ) but seemed independent of age, disease category, or prior vasomotor instability. Previous underestimation of the frequency and severity of this response, particularly in women, is difficult to explain. Although in this study the patients were specifically questioned about nine side effects after the injection, the proportion who gave multiple positive responses was low. No other side effect was reported by as many as 40 patients, and the incidence of flushing was still high when all patients in the study were included (44/130; 34%). Every precaution was taken to ensure intra-articular rather than periarticular injection.

Flushing was reproducible within the small group of patients who were given a repeat injection of triamcinolone acetonide. Although not specifically designed to compare the frequency of side effects between different long acting steroids, the study suggested that the propensity to cause flushing may vary between different preparations. Whether the steroid, the side chain, or the vector is responsible for the flushing remains to be determined.

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## Tropical spastic paraparesis associated with human T lymphotropic virus type I in an east African naturalised in Sweden

A slowly progressive myelopathy affecting the pyramidal tracts and to a minor extent other systems is known as tropical spastic paraparesis because of a characteristic geographical distribution.<sup>1</sup> Recent evidence suggests an aetiological role for the human T lymphotropic virus type I (HTLV-I) in this condition.<sup>1,2</sup> Though HTLV-I is widespread in Africa, tropical spastic paraparesis associated with this virus has been found in only one African patient, living in the Ivory Coast (west Africa).<sup>3</sup> We report a long record of antibodies to HTLV-I in an east African with tropical spastic paraparesis who had been resident in Sweden for 12 years.

### Case report

A 31 year old Ethiopian had settled in Sweden in 1975. From the age of 16 he had had frequency and urgency of micturition and from the age of 21 he had