ance of immunological tolerance to these natural compounds.⁶ Under conditions of autoimmunity, such as experimentally induced immune mediated demyelination of the peripheral nerves, injections of pure gangliosides do not result in the induction of antibodies to gangliosides and do not worsen the course of the disease.⁷ A neurological syndrome induced in rabbits by injecting gangliosides derived from brain reported by Nagai *et al*⁸ could not be reproduced and could be explained as resulting from contamination of the ganglioside preparation by myelin proteins.

Antibodies reactive with gangliosides recognise the carbohydrate portion of the molecule. These carbohydrate epitopes are not uniquely expressed on gangliosides but are also present on glycoproteins and bacterial cell walls.⁹ Controlled studies in humans have proved that the prolonged administration of G_{m1} in healthy individuals as well as in patients with neurological diseases does not modify the pattern of antibody crossreactivity to glycoconjugates.¹⁰

In conclusion, all available data are consistent with the lack of immunogenicity of brain-derived gangliosides if purity is guaranteed. Thus, their use for therapeutic purpose should not be restricted by the present immunological knowledge.

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Venous leg ulcers

EDITOR,—A I Skene and colleagues describe a prognostic index to predict the time to healing of venous ulcers.¹ The index is based on four covariates, including an assessment of the deep veins by photoplethysmography, referred to as "deep vein involvement." This technique gives some insight into calf pump function but does not specifically indicate incompetence of the popliteal valve as the authors imply. Furthermore, no techniques for imaging deep veins were used, and thus no information regarding the presence of post-thrombotic disease is available. Post-thrombotic change in the deep veins greatly influences the natural course of venous ulceration^{2,3} and should be sought with an accurate technique such as ascending phlebography in any such study.

The deep vein involvement described in this

study is thus derived from an incomplete assessment of the deep veins that omitted the single most important aspect of the deep veins—namely, the presence or absence of post-thrombotic change. The failure to address this aspect of the deep veins must surely detract from the value of the prognostic index described.

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EDITOR,—A I Skene and colleagues' paper provides a useful prognostic index for healing of venous leg ulcers.¹ The authors do not comment, however, on the presence of oedema and whether this delayed healing.

Oedema represents an increase in interstitial fluid volume and is a common finding in venous leg ulcers, when it is considered to be a consequence of increased capillary filtration. It is present in 55% of patients despite graduated compression, and its prevalence is higher in patients treated in the community than in those treated in hospital.² It is associated with poor wound healing and may therefore be an important factor in the failure of venous leg ulcers to heal.³ It results in increased exudation from ulcer beds, thus jeopardising the viability of surrounding skin. From the point of view of management it necessitates more frequent dressings and makes support bandages harder to apply.

If the aim of the prognostic index is to predict time to healing and help in the formulation of management decisions, the presence of oedema would probably serve as an additional prognostic factor. A yardstick by which doctors, nurses, and patients themselves could judge satisfactory treatment is the abolition of pitting on the foot and lower limb.

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AUTHORS' REPLY,—The burden of care for venous ulcers lies mainly in the community. The healing score that we described is designed to be used by trained primary care staff with an interest in and access to simple non-invasive studies. Venous function was assessed with a combination of continuous wave ultrasonography and photoplethysmography, and the patients were categorised as having deep or superficial vein involvement after appraisal of the results obtained with both techniques.

We did not attempt to resolve the controversies concerning the most accurate determinant of deep venous function. Though we acknowledge that ascending phlebography contributes anatomical detail, the invasive nature and cost were not considered appropriate in this study. Although Stacey *et al* showed many ulcerated limbs with extensive post-thrombotic change phlebographically, this finding was not associated with a delay in ulcer healing.¹

Duplex scanning undoubtedly enhances the accuracy of ultrasound assessment and is used regularly for people attending hospital but was also not considered appropriate for a community based study. The relatively low contribution of the functional data to the prognostic index suggests that had duplex scanning been performed it would have had little effect on the outcome.

We were interested in A Prasad's comments. We recorded three variables when assessing oedema in our study but did not consider them for inclusion in the models presented in our paper. We have repeated the proportional hazards modelling to assess whether their inclusion improves the ability to predict prognosis.

The presence of oedema of the foot, ankle, or calf was not significantly associated with time to complete ulcer healing, the relative risk and 95% confidence intervals for these variables being 1.15 (0.78 to 1.71), 1.12 (0.76 to 1.66), and 1.06 (0.71 to 1.60) respectively. Oedema was, however, associated with the two principal prognostic factors, ulcer area and duration of ulceration. The mean ulcer area and duration of ulceration were 16.3 cm² and 38.3 months respectively for ulcerated limbs with oedema of the foot and 10.4 cm² and 9.8 months respectively for limbs without oedema. Attempts to assess the association between oedema and wound healing without allowing for these confounding prognostic factors can lead to incorrect inferences.

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EDITOR,—Christine J Moffatt and colleagues comment that community clinics for venous ulcers offer an effective means of achieving healing.¹ Our practice has been running a clinic for three years, with a success rate of over 80%. The keys to success are adequately trained practice nurses supported by the community dermatological nurse, close attention to achieving good compression, and open access for patients at an early stage if there is recurrence.

No special diagnostic equipment is required. In the first year of the clinic's operation the district nurses' visits for leg ulcers dropped from 24% to 8% of total visits. Whether initial aggressive management of early ulcers prevents the development of long term intractable ulceration remains to be seen.

Interestingly, although the clinic was the only one that was clearly identified as offering a health gain, it was turned down as a health promotion clinic.

Clinics for leg ulcers can easily be set up in a primary care setting; some initial extra training of nurses and attention to organisational detail are necessary. Patients' satisfaction, staff morale, and cost-benefit analysis are enhanced by a systematic approach to care.

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