

of the study, and later in pregnancy had overt symptoms with malaise and steatorrhoea of 11.5 g/24 h. She was started on a gluten-free diet and this was succeeded by a dramatic clinical response. Four months postpartum she was challenged with a normal diet for two weeks, and the jejunal biopsy taken at the end of that period showed a severe degree of villous atrophy typical of coeliac disease.

Case No.	Previous bowel disturbance	Haemoglobin (g/dl)	Red cell folate (g/l) (normal > 1.6)	Reticulin antibody	Jejunal biopsy findings
1	-	13	2.50	+	PVA
2	-	13.7	1.46	-	Normal
3	-	14.8	3.15	+	Normal
4	+	12.9	2.50	+	Normal
5	-	NT	1.35	-	Normal
6	+	11	1.80	+	SVA
7	-	13.7	1.30	+	Normal
8	+	13.8	1.53	-	Refused
9	-	14.5	2.85	+	Normal
10	-	10.7	1.60	-	Normal

NT = not tested. PVA = partial villous atrophy. SVA = subtotal villous atrophy.

The other patient with abnormal histological findings originally came from India, although she had been in the UK for nine years. There was no history of bowel disturbance, but the patient was very thin (44 kg, 165 cm). She has been treated with a gluten-free diet for four months, but a repeat intestinal biopsy did not show any significant changes. So far she has not gained weight or conceived.

Discussion

Infertility² and recurrent abortions³ are recognised complications of untreated coeliac disease, and after treatment with a gluten-free diet successful pregnancy may occur. One of our patients with villous atrophy (case 6) undoubtedly had coeliac disease and shows how this condition may be entirely subclinical. The diagnosis of coeliac disease was not established in the second patient with partial villous atrophy. Both patients had a positive reticulin antibody test, emphasising its usefulness for screening for coeliac disease in "at risk" groups.

We also found a high prevalence of smooth muscle antibody and antinuclear factor in the infertile patients as a whole.⁴ None of the women with reduced red cell folate concentrations who had jejunal biopsy had villous atrophy, and presumably the folate deficiency was dietary.

Although we have shown that subclinical coeliac disease is an uncommon cause of infertility, we think that it is important for clinicians to be aware that patients with coeliac disease may present in this way. This is particularly so as it is a readily treatable disorder which, if left untreated, carries the risk of malignancy in later life.

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⁴ Wilson, C, *et al*, *Lancet*, 1975, 2, 1238.

⁵ Harris, O D, *et al*, *American Journal of Medicine*, 1967, 42, 899.

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New porcine dermis dressing for varicose and traumatic leg ulcers

The most important measure in the management of varicose ulceration is pressure bandaging, usually augmented by local dressings. Chronic ulcers commonly heal slowly, as shown by the many forms of local treatment which have been advocated. Porcine skin dressings have

been successfully used to treat burns. One such product consists of lyophilised freeze-dried porcine epidermis and dermis. During experimental work it was discovered that a single 0.3-mm layer of freeze dried dermis alone (Corethium II) possessed interesting properties. Unlike the full-thickness skin, with its waterproof epidermal layer, the permeable dermis can be reconstituted from the freeze-dried state by soaking in normal saline for five minutes, forming a pliable dressing.

To compare healing on conventional and porcine skin therapy we analysed the records of patients referred to the physiotherapy department with varicose and traumatic leg ulcers between 1 October 1974 and 30 September 1975.

Methods and results

Conventional "Bisgaard" treatment consisted of bandaging (Calaband or Quinaband) and elastic support with weekly dressing changes, and in the study group the porcine dermis was applied twice weekly to the eusol-cleaned ulcer and trimmed to its margins. The dressing was completed with an impregnated bandage and elastic support similar to those used in the control group. Healing rate was calculated by tracing the ulcers on sterile film.

Of the 18 patients studied, 10 were treated with Bisgaard therapy and eight with porcine dermis. Twelve ulcers were primarily varicose without history of trauma; the remainder originated from local injury. In one patient in the porcine dermis group healing rates were calculated for three separate ulcers.

Results of treatment

Treatment	Type of ulcer	Number of ulcers	Mean ulcer area at start of treatment (cm ²) (range)	Mean duration of treatment (weeks)	Healing rate (cm ² /week)
"Bisgaard"	Varicose	8	12.9 (0.8-44.6)	14.9	0.9
	Traumatic	2	5.5 (5.3-5.7)	9.5	0.6
	Varicose	6	17.2 (2.9-37.9)	9.2	1.8
	Traumatic	4	25.7 (6.8-68.3)	9.8	2.5

Two patients who had deteriorated on Bisgaard treatment were transferred to the porcine dermis group. The mean healing rate for varicose ulcers in the porcine dressing group (1.79 cm²/week) was roughly twice as fast as in the Bisgaard group (0.85 cm²/week). The same trend was observed for the traumatic ulcers (see table). No ulcer treated with porcine dermis has so far failed to heal. The two patients whose ulcers deteriorated on the Bisgaard regimen secured good healing after transfer to porcine dressings. There were no unfavourable local or systemic reactions.

Discussion

The healing in the "control" group with the Bisgaard treatment was the best that could be achieved by conventional means in a department with a long experience of the problem. A striking feature of the porcine-treated ulcers was the rapidity with which granulation tissue formed. Though the use of lyophilised split skin homograft and porcine heterograft for leg ulcers has been reported,¹⁻³ we believe that this is the first account of the successful use of a separate dermal layer. Questions of relative convenience, cost, and optimal dressing techniques have still to be worked out. We recognise the limitations of retrospective analysis but are sufficiently encouraged to proceed with a prospective clinical trial for further evaluation of this material.

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