Axillary hyperhidrosis treated with alcoholic solution of aluminium chloride hexahydrate

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Summary and conclusions

Sixty-five patients with axillary hyperhidrosis took part in a trial of treatment with a solution of 20% aluminium chloride hexahydrate in absolute alcohol, applied topically each night for a week and then whenever the patient thought it necessary. Excellent control of sweating was achieved in 64 patients, and occlusion of the area was found to be unnecessary. No troublesome side effects were reported.

The results of this study indicate that 20% aluminium chloride hexahydrate in absolute alcohol is the treatment of first choice for patients with axillary hyperhidrosis.

Introduction

Axillary hyperhidrosis is socially embarrassing and financially taxing: suits, shirts, and dresses may be soon ruined by it. Most sufferers are extremely conscious of the wet patches evident in their axillae on important social occasions. The main feature of the disorder is a massive outpouring of secretions from the eccrine sweat glands under thermal and emotional stress. It is usually unknown before adolescence, and many patients seem to undergo spontaneous remission after middle age.

Many forms of treatment have been advocated, which were well reviewed by Cunliffe and Tan. There are four main types: systemic, surgical, radiotherapeutic, and topical. Systemic treatment consists mainly of anticholinergic drugs such as propantheline. These often have to be given in high dosage, causing severe side effects with little control of axillary sweating.

Various operative procedures described include cervic sympathectomy, total excision, or curettage of the eccrine glands, and cryotherapy. Ellis advocated total excision of the eccrine glands as the treatment of choice. The initial success rate of this procedure appears to be low, however, recurrence is high, and scarring may be severe. Radiotherapy has also been used, but the high dose needed to eliminate sweating may cause radiodermatitis. Many topical preparations have been used in common usage from the early part of the century: Shelley and Hurley listed almost 90, most of which were aluminium salts. Their mode of activity is not known, but they affect the eccrine gland and duct below the level of the stratum corneum rather than plugging the sweat pore. These preparations have been used extensively commercially but are usually buffered towards a neutral pH to minimise irritation of the skin and damage to clothing, which makes them more acceptable. They appear to control sweating in normal people but do not help those with hyperhidrosis.

Shelley and Hurley maintained that a high acidity (pH < 5) was essential in treating patients with hyperhidrosis, and claimed success in five cases in which a 25% solution of aluminium chloride hexahydrate in absolute alcohol was used. Their work seemed to have been largely overlooked, but their results were encouraging and we felt they justified further study, particularly in view of the cases reported by Sneddon.

Patients and methods

Over 15 months we treated 65 patients with axillary hyperhidrosis in our dermatology clinics (42 in Swindon and 23 in Bristol). The group comprised 57 women and eight men aged 14–51 years. They had suffered from axillary hyperhidrosis for from two to 25 years. Most had had previous treatments. In particular, three had undergone excision of the eccrine glands, and another had been treated with sympathetic block and radiotherapy. The diagnosis of axillary hyperhidrosis was made from the patient's history and close observation of the axilla at consultation. In every case the sweat soaked through the clothing.

Our methods were based on those outlined by Shelley and Hurley: using 20% aluminium chloride hexahydrate dissolved in absolute alcohol. This is an almost saturated solution and takes three weeks to dissolve at room temperature. The solution was applied nightly with a small brush. It was important that the axilla was dry before application and not shaved for 24 hours before and after treatment. The solution was applied only to the area of excessive sweating. At the beginning of the study the patients were instructed to occlude the...
Proctocolectomy without ileostomy for ulcerative colitis

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Summary and conclusions
An operation has been developed that permits total removal of all disease-prone mucosa in ulcerative colitis but avoids the need for a permanent ileostomy. The colon and upper half of the rectum are excised and the remaining inflamed mucosa is stripped from the rectal stump down to the dentate line of the anal canal. A pouch is fashioned from a triplicated loop of terminal ileum.

This is drawn down through the denuded rectum and an anastomosis created, via the per-anal approach, between the ileum just distal to the pouch and the mid-anal canal. A temporary ileostomy is made.

Out of eight patients so treated, five were available for assessment, and four of them were highly satisfied with the result in improved health and function. The remaining three were awaiting closure of their ileostomies.

Introduction
Ulcerative colitis is of unknown aetiology, and its treatment, both medical and surgical, is empirical. Operative treatment will remain an essential part of management until the cause of the disease is found and a specific cure discovered. Proctocolectomy is the commonest procedure used and eliminates colonic mucosa in its entirety and thus the source of inflammation and potential malignancy. The price paid, however, is a permanent ileostomy.

References