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Cryosurgery for Benign Cervical Lesions

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Summary

Fifty patients with cervical erosions causing symptoms were treated with cryosurgery. Healing was complete in 41 (91%) out of 45 patients who were seen six weeks later, and in 21 patients who were followed up in greater detail the rate of symptomatic relief was high. All the patients who were treated without anaesthesia found the procedure acceptable. Only one patient noted post-operative bleeding, and this was minimal.

Introduction

Benign cervical erosions are usually treated by electrical or thermal diathermy. Such cauterization without sedation or analgesia is more often painful than many of those who use it care to admit, and many treatments are sometimes needed to secure complete healing. Ostergard *et al.* (1969) claimed that cryosurgery brought quicker healing of the cervix and gave a greater rate of cure (Ostergard *et al.*, 1969; Jackson, 1972). Miller and Elstein (1973) were unable to show these advantages, but they limited application of the cryoprobe to a two-minute period. This paper reports the results of cryosurgery in 50 cases of benign erosion of the cervix.

Patients and Methods

All 50 patients had benign cervical lesions causing symptoms. Unsuspected malignant or premalignant conditions were excluded by cytological examination. Treatment was given at any time in the month except during menstruation. The cryoprobe used was the Spembley TCCIO with nitrous oxide as the coolant. The advantage of this gas is that it is readily available and cheap.

For outpatient treatment the cervix was exposed with a Cusco's speculum which also splints the cervix so that vulsellum forceps need not be used. The cryoprobe was applied to the cervix until a white rim of frozen tissue appeared and the freezing was then continued for a further one to three minutes. All patients were asked to attend for follow-up after six weeks and 45 of them did so. These were asked to return again if they had any further problems. The 21 patients treated most re-

cently were assessed in greater detail, and only one of these defaulted.

Results

Healing.—Healing was complete in 41 (91%) of the 45 patients seen six weeks after the operation. Of the 21 patients treated most recently (one defaulted) the cervix had healed completely in 19. The one patient with a poor result was completely cured after a second application of the cryoprobe. The time in the menstrual cycle when treatment was undertaken did not affect the cure rate.

Relief of Symptoms.—The 21 most recent patients were carefully assessed for symptomatic relief. Nine patients who had had intermenstrual or postcoital bleeding were all cured. Out of fifteen patients who had complained of vaginal discharge 13 were either cured or improved. Three patients out of four who complained of pelvic pain were cured, and the one patient with continuing pain had pre-existing pelvic inflammatory disease.

Pain.—Seven patients out of 21 had a general anaesthetic because of other surgery undertaken at the same time. Of the remaining 14 patients five noted slight discomfort in the lower abdomen during treatment. In no case was this severe and all five patients mentioned the discomfort only on direct questioning. One patient had pain after the operation, which was probably accounted for by pre-existing pelvic inflammatory disease.

Postoperative Discharge.—Seventeen out of 20 patients questioned observed a watery discharge for up to two weeks after treatment, but none found this distressing. All had been warned that they might have a transient discharge.

Haemorrhage.—Only one patient noted spotting postoperatively and there were no cases of frank secondary bleeding.

Discussion

Cryosurgery seems to be an advance in the outpatient treatment of benign cervical lesions. Ostergard *et al.* (1969), comparing its efficacy with that of diathermy, found a healing rate of 90% with cryosurgery and 33% with diathermy. Jackson (1972) found a cure rate of 83% with cryosurgery compared with 62% with diathermy, but most of the patients were treated under general anaesthesia. Similar high cure rates with cryosurgery have been reported by others (Ostergard *et al.*, 1968; Townsend *et al.*, 1971; Young *et al.*, 1972).

In the present series the healing rate improved with the increased experience of the operator. This seemed to be due to the use of longer freezing times in selected cases. As a standard treatment it was found best to freeze for two minutes after a white rim had appeared on the cervix all round the cryoprobe. With larger lesions the freezing time can be increased to three

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minutes. In those cases of chronic cervicitis with Nabothian follicles two applications at the same session were more effective than one. Even when the whole lesion was not covered with the cryoprobe healing was complete without the multiple applications other workers have suggested to be necessary.

Cryosurgery is less painful than diathermy (Ostergard *et al.*, 1969; Jackson, 1972) and in the present series no patient had more than slight discomfort, which did not continue after treatment was completed. Jackson (1972) and Townsend *et al.* (1971) found that mild discomfort in the lower abdomen continued for up to three days after treatment, but this was not our experience. None of our patients noted dizziness or flushing after treatment. The incidence of postoperative bleeding reported has varied considerably. Townsend *et al.* (1971) noted spotting in 50% of patients, Jackson (1972) in 26%, and Young *et al.* (1972) had only one case of haemorrhage out of 132 patients treated. In only one of our patients was vaginal spotting noted. The incidence and duration of vaginal discharge after treatment varies but is sufficiently common and

profuse to make it necessary to warn patients and to reassure them.

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Correlation between Long-acting Thyroid Stimulator Protector Level and Thyroid ¹³¹I Uptake in Thyrotoxicosis

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Summary

Out of 50 consecutive untreated patients with diffuse toxic goitre 15 showed long-acting thyroid stimulator (LATS), 30 showed LATS protector only, and five showed neither. LATS protector was present in all the patients with LATS. Infiltrative ophthalmopathy was less common in patients with LATS protector only (40%) than in patients with LATS also (67%), but the difference was not significant. There was a correlation between LATS protector level and thyroid ¹³¹I uptake rate factor (k_1), the coefficient (r) being 0.68 ($P < 0.001$). LATS level showed no such correlation. The results support the hypothesis that LATS protector is a pathogenic thyroid stimulator in patients with diffuse toxic goitre.

Introduction

Long-acting thyroid stimulator (LATS) protector is an immunoglobulin found in the serum of patients with diffuse toxic goitre (Adams and Kennedy, 1967, 1971). It competes with LATS for binding to human thyroid extract in vitro and thus protects LATS from neutralization. It does not react with mouse thyroid homogenate, however, or stimulate the mouse thyroid in vivo. In view of these characteristics it was suggested that LATS protector is a species-specific human thyroid-stimula-

ting autoantibody (Adams and Kennedy, 1971). It has since been reported that LATS protector serum stimulates intracellular colloid droplet formation in human thyroid slices incubated in vitro (Shishiba *et al.*, 1973), and we have shown by infusion studies in normal people that LATS protector plasma does have thyroid-stimulating activity in man (Adams *et al.*, 1974).

We record here the incidence of LATS protector and LATS in a series of 50 consecutive patients with untreated diffuse toxic goitre. In addition, we looked for correlations between LATS protector level and various indices of thyroid activity, seeking evidence of a causative role for LATS protector in this form of thyrotoxicosis.

Patients and Methods

The patients were 50 consecutive untreated patients with diffuse toxic goitre. Patients previously treated by thyroidectomy or radioactive iodine and those given antithyroid drugs within the previous three months were excluded as were those in whom the thyroid scan showed one or more functioning nodules. All patients were examined by one of us (R.D.H.S.), and their eye signs were classified according to criteria recommended by the American Thyroid Association (Werner, 1969), as follows: class 0, no eye signs; class 1, lid retraction or lid lag or both; class 2, chemosis (with or without class 1 signs); class 3, exophthalmos or lid bulge or both (with or without class 2 signs); class 4, oculomotor dysfunction (with or without class 3 signs).

The thyroid uptake rate factor (k_1) of Oddie *et al.* (1955) was calculated from the uptake of ¹³¹I by the thyroid at one hour; the 24-hour uptake was also measured. The thyroid scan was obtained with a rectilinear scanner after the administration of 2 mCi ^{99m}Tc pertechnetate. The area of this thyroid scan image, measured by planimetry, was used as an index of thyroid size. Serum total thyroxine (T-4) and triiodothyronine (T-3) resin uptake were measured by competitive protein-binding radioassay. The product of total T-4 and T-3 uptake (divided by 100) was used to give a free T-4 index (Clark and Horn, 1965).

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