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Abstract: A prospective, observational study was carried out to assess the efficacy of Large Loop Excision of the Transformation Zone (LLETZ) as an outpatient procedure during the first visit of patients with abnormal cervical smears.

One hundred and seven women were treated with LLETZ under local anaesthesia as an outpatient procedure at their first visit. All patients were followed up routinely with colposcopy, cytology, and also histology where appropriate for at least 6 months.

In all cases, the specimens obtained were adequate for histopathological assessment, and in 103 cases (96%), the lesion had been completely excised. When compared, the degree of abnormality confirmed by histology was higher than cytologically suspected abnormality in 56 cases (52%).

LLETZ under local anaesthesia during the first visit is an effective technique, superior to laser ablation and cone biopsy. It enables the diagnosis and treatment of patients with abnormal cervical smears in a single visit. Thus, adequate tissue is made available for accurate diagnosis, thereby improving the quality of care.

Key Words: CIN, LLETZ, Outpatient, Treatment, Diagnosis

Introduction

Outpatient loop excision of the transformation zone for the diagnosis and treatment of cervical intraepithelial neoplasia (CIN) was reported by Cartier et al. in 1981 (1). Since then the technique has become more popular because it combines the advantages of outpatient destructive techniques with those of cone biopsy. It is a technique easy to perform, and has proved highly acceptable to patients. The diathermy equipment used is cheap and already available in many hospitals. Prendiville et al. (2) reported a qualitative comparison of cervical biopsies obtained with LLETZ and simple punch biopsy. He concluded that the former method produced superior histological material. More recently, attention has been focused on cases of moderate dyscariosis with suspected CIN 1. There is still considerable disagreement within the profession whether to conservatively or actively manage such cases.

In this study, 12 months' experience with LLETZ under local anaesthesia during the first visit for the diagnosis and active treatment of CIN is reviewed.

Materials and Methods

During the course of 12 months, 164 patients were referred to the colposcopy clinic because of either abnormal or persistently inadequate smears. One hundred and seven patients treated with LLETZ under local anaesthesia during their first visit are included in the study. Ten patients were under the age of 21, 52 were between 21 and 30 years, 20 were between 31 and 40 years, 14 were between 41 and 50 years, and two were over the age of 50.

All smear results were reported stating the degree of dyscariosis and the suggested degree of CIN in terms of 0-1, 1, 1-2, 2, 2-3, and 3. All histological findings were reported in the same manner stating the degree of CIN, thus making the comparison possible.

At the initial colposcopic examination, 3% acetic acid was applied to the cervix and following the inspection, the cervix was stained with Lugol's iodine solution for delineation of the excision zone. The diathermy power supply was a Valleylab Force 2 Electro-Surgical Unit and the disposable loops were supplied by Rocket, London. A Cusco speculum with an attached suction tube was used throughout the procedure. Local anaesthesia was

achieved by infiltrating the area to be removed on the cervix with Citanest and Octapressin in 2.2 ml units using a dental syringe. In the majority of the cases (97 cases), 2.2 ml was enough to achieve adequate anaesthesia but when the patient was over-anxious or the lesion was relatively large, more local anaesthetic was required. Following the local anaesthetic infiltration, loop excision usually took less than one minute and the surface of the wound was touched with ball diathermy using very low power output. Wounds were normally left open but in 11 cases (10%), where haemostasis was less satisfactory, a 2x2 cm surgical haemostatic sponge was applied to the wound and was supported by a vaginal tampon. The patients were advised to avoid intercourse and vaginal tampons for six weeks.

All patients were followed up by a repeat colposcopy in four months after the initial treatment. During this visit the histology report was reviewed and, where necessary, further biopsies or loop excisions were performed complementing the colposcopic examination. Otherwise, patients were seen in the outpatients department for a repeat cervical smear two months later.

Results

All excisions were completed without major complications. Perioperative morbidity was minimal. Most patients admitted having mild discomfort similar to or slightly stronger than period pains. Some patients stated that they had no discomfort at all. One postnatal patient needed cervical sutures to achieve haemostasis following the excision. Two patients (1.8%) were admitted to the hospital the same day with primary bleeding and were treated conservatively with the insertion of a surgical haemostatic sponge and vaginal pack. They also received antibiotics. Six patients (5.6%) were referred to the hospital with secondary bleeding in 10-14 days following the procedure and were treated successfully by administration of antibiotics only. In all cases, the amount of bleeding was less than that experienced during menstruation.

In 17 cases (15.8%), histology reports suggested an incomplete excision and possibility of residual pathology. However, this was proved in only 4 cases, which required a second excision. In 103 cases (96%), the lesion was completely excised. This was confirmed by subsequent colposcopy, cytology and further biopsies where necessary. This difference was probably due to the cauterising effect of the excising loop and the subsequent ball diathermy cauterisation on the cervix. All 103 patients had cervical smears 6 months following the initial treatment and the 4 patients who required a second excision had their smears 6 months after the second treatment. All smears were reported to be normal and there was no evidence of recurrence or residual disease.

When compared, the degree of abnormality confirmed by histology was higher than cytologically suspected abnormality in 56 cases (52%). The most common cytologically suspected abnormality was CIN 1. This was reported in 44 cases (41%), of which 7 cases (16%) were confirmed to have CIN 3, and 5 cases (11%) CIN 2-3. On the other hand, the most commonly found histological diagnoses were CIN 3 and CIN 2 in 26 patients (24%) in each group.

The colposcopic examinations performed four months after the initial treatment revealed that in all cases there was minimal or no scarring of the cervix. There were no findings to suggest subsequent cervical stenosis, which was a more important issue as a cause of infertility, since 90 (84%) of the patients treated with LLETZ were 35 years old or younger.

Discussion

Rene Cartier has long been an advocate of the low voltage diathermy loop as a method of both investigating and treating cervical intraepithelial neoplasia (3). The principal advantages of the large loop excision method are that it is an outpatient procedure and provides a histological diagnosis while removing rather than destroying the tissue under scrutiny. It is therefore possible to rule out invasive disease and confirm that the lesion has been removed in its entirety (4). In our study, 12 patients (27%) out of 44 with cytologically suspected CIN 1 were diagnosed as having CIN 2-3 or CIN 3, which would require a more careful follow up. If treated with destructive methods, given the unreliability of punch biopsies, the degree of abnormality in these lesions would be misdiagnosed. This would lead to an unsuitable and inadequate follow up.

Clinical trials comparing LLETZ to CO2 laser ablation of the transformation zone have demonstrated similar efficacy and complication rates (5,6). Gunesekara et al. noted a 6.9% recurrence rate in patients treated with

laser ablation versus 5.1% in patients treated with LLETZ (5). Similar findings were also documented in long-term follow up trials (7). The effectiveness of CO2 laser and LLETZ, four years after the initial treatment, was reported to be 94.6% and 96.4% respectively. Furthermore, in spite of almost complete agreement in both procedures, LLETZ seems to be preferred because of the possibility of histological post-treatment verification (7).

On the question of long-term morbidity, it has recently been concluded that when socio-epidemiological factors associated with the development of CIN are controlled, LLETZ does not appear to exert an independent adverse effect on subsequent pregnancy outcome. After controlling for socio-epidemiological factors, no significant increase in the incidence of preterm delivery or low birth weight was detected. In addition, it did not appear to affect cervical function as determined by mode of delivery or duration of labour (8). Pregnancy after LLETZ seems to have none of the adverse effects associated with a cone biopsy (9).

In our study, 3 patients (2.8%) were subsequently diagnosed as not having CIN, which brings up the question of over-treatment. We feel this is a very small minority. Since the perioperative and short-term morbidity is low, this should be regarded as acceptable. It has been shown that intervention of a punch biopsy prior to LLETZ made no difference to the outcome. A punch biopsy does not reduce the occurrence of negative LLETZ, and it has also been confirmed that the punch biopsy may be unreliable and certainly cannot be upheld as the gold standard (10). There is no evidence to suggest that destructive techniques used for the treatment of CIN have a smaller rate of over-treatment. In this context, the diagnostic and therapeutic efficacy of large loop excision of the transformation zone performed during the first visit, by an experienced colposcopist, was also confirmed in the study of Das and Elias (11).

LLETZ is a safe and effective procedure with no effect on menstruation or fertility (12). It is cheap, effective, easy to perform, and enables the diagnosis and treatment of patients with abnormal cervical smears in a single visit. If the growing number of women requiring diagnosis and treatment as a result of having had an abnormal cervical smear is considered, decreasing the number of visits, and treating the patients more quickly and effectively, maximizes the importance of LLETZ further. In this context, LLETZ appears to fulfil all these requirements and, furthermore, by providing an adequate amount of tissue for accurate diagnosis, it also improves the quality of care.

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