ABSTRACT

Aim: To evaluate final pathological results of hysterectomies which were done after the finding of positive cervical conization margin.

Material and Method: Thirty-five patients underwent hysterectomy after cervical conization revealing positive surgical margins among 252 patients who had undergone cervical conization between 2005 and 2013 were included in this study.

Results: Mean age of the patients were 38.79±8.82. Hysterectomies were performed in 1.57 ± 1.24 months following conization. Dysplasia was revealed in only 9 hysterectomy specimens (9/35), 6 High grade CIN, 3 Low grade CIN.

Conclusion: A careful follow-up can be a good alternative to post-cone hysterectomy or reconization decision after the finding of positive cervical conization margin.

Keywords: conization; cervical intra-epithelial neoplasia; hysterectomy; positive surgical margin

INTRODUCTION

The interest in conservative surgery in the treatment of gynecologic malignancies has gradually been increasing. Cervical conization, the excision of a cone shaped portion of the cervix surrounding the endocervical canal and including the entire transformation zone, is an effective and classic method in management of cervical intraepithelial neoplasia. Generally it delineates the diagnosis, type, grade and resection borders of lesion. Sometimes, lesion can be detected in cervical conization margins. The options of the management of cervical conization margin positivity can be follow-up with cytology and colposcopy, reconization, post-cone endocervical curettage or post-cone hysterectomy. The factors that affects this decision are patients’ age, menopause status, patients’ treatment insistency, medicolegal pressures on doctors, parity, severity of disease, post-cone endocervical curettage, endocervical gland involvement, multiple-quadrant disease, depth of conization, and pre-cone high-risk human papilloma virus load.

In this study, we evaluated the final pathological results of hysterectomies which were done after the finding of positive cervical conization margin to focus on the post-cone hysterectomy.

MATERIAL AND METHOD

This retrospective, descriptive study was conducted between May 2013 and June 2013 in a tertiary teaching hospital in Zeynep Kamil Maternity and Pediatric Research and Training Hospital, Istanbul, Turkey. The study was approved by the Ethics Committee. A total of 252 conizations were performed with an indication of cervical intra-epithelial neoplasia at our center between 2005 and 2013. Eighty two of them had positive cervical conization margin results. Thirty five of patients who had positive surgical margins underwent hysterectomy and included in the study. The patients who had not undergone hysterectomy was not included in the study.
because the purpose of the study was to compare pathologic findings between the conization and hysterectomy specimens. Hysterectomies were performed abdominally with the indications of dysplasia \( n=34 \) and leiomyoma \( n=1 \). Patients’ ages, the conization methods, the pathologic examination results of the conization, hysterectomy and endoservical curettage, follow-up data were obtained by chart review (Figure 1). Cold knife cone biopsy and large loop electrosurgical excision procedure (LEEP) were the methods used for conization. All conizations were performed after staining cervixes with Lugol solution for determining the extension of the lesion and the size of the cone. Lateral sutures were placed in the cervix at the 3 and 9 o’clock positions for ligating the cervical branch of the uterine artery. After the excision, ECC was performed. Hemostasis was performed by ball diathermy and Monsel solution. A suture was placed at 12 o’clock of the cone specimen for orientation. Cone biopsy specimens were sent to the Department of Pathology. The usual protocol in our hospital for the examination of conization material is to keep the specimen in formaldehyde \((10\%)\) for one day, then the surgical margin is stained and the specimen is sliced in clockwise direction to form 2-3 mm thick pieces. Multiple blocks are created. Two or 3 sections which are 3 micron thick are cut from every block. Positive margins were diagnosed if CIN 3 was present at the ectocervical or endocervical margins or both. All hysterectomy and conization slides of each patient with positive cervical conization margin results were re-examined by two pathologists. Positive results were confirmed. Statistical analysis was performed using SPSS version 10 (SPSS, Chicago, IL, USA). Descriptive statistics were utilised (example: percentage, mean, standard deviation, range).

RESULTS

Cervical intraepithelial neoplasia, microinvasive carcinoma, cervical carcinoma or no lesion were detected in the pathological examination of 252 cervical conization material. 217 patients did not undergo hysterectomy but 35 of them underwent hysterectomy. The noted indications for hysterectomy in the charts were dysplasia in 34 cases and myoma uteri in 1 case. Mean age of the patients who underwent hysterectomy were \( 38.79 \pm 8.82 \). Hysterectomies were performed in \( 1,57 \pm 1,24 \) months following conization. Dysplasia was revealed in only 9 hysterectomy specimens \((9/35)\), 6 High grade CIN, 3 Low grade CIN. Loop electrical excision procedure (LEEP) was the conization method in 19 hysterectomy patients and cold knife conization in 16 hysterectomy patients. Locations of positivity were endocervical margin in 24 cases, ectocervical margin in 3 cases, and endo / ectocervical margin in 8 cases. Endocervical curettage was positive in only 7 cases. Locations of positivity were endocervical margin in the ECC positive 7 cases. High grade cervical intraepithelial neoplasia was the lesion in the margin in 34 cases and low grade cervical epithelial neoplasia in 1 case.
DISCUSSION

The risk for residual disease is greater in patients with a positive margin after an excisional procedure of the cervix than patients with clear margins. This risk was determined in studies which evaluate the subsequent hysterectomy or the repeat excision (1, 2). The risk of residual disease is increased if both the excised specimen and the endocervical curette show high-grade histology and if both the ecto- and endocervical margins are positive (3-5). However according to Moore et al the presence of dysplasia in the cold knife conization either ectocervical margin or endocervical margin was not predictor factors for residual dysplasia in post-cold knife conization hysterectomy specimens. They suggested that age and severity of disease in the cone specimen were the factors that accurately predicted residual dysplasia (6).

In addition to this, Lu et al determined age, menopause status, parity, severity of disease, post-cone endocervical curettage, surgical margin, endocervical gland involvement multiple-quadrant disease, and depth of conization as predictor factors for residual disease after conization (7). Also, there is a significant association between endocervical surgical margin involvement and multiple cervical quadrant involvement which is also closely associated with smoking (8).

A study of 390 patients with involved margins after cold-knife conization for CIN 3 reported that the combined risk of persistent, recurrent, or progressive disease when ectocervical, endocervical, or both margins were positive was 17, 21, and 52 percent, respectively, after 6 to 30 years follow-up (5). Only five patients developed microinvasive disease and one patient developed stage 1B carcinoma. Low risk of residual disease in our study (9/35, 25 %) is consistent with the literature. Noor et al reported 77% of patients who had incomplete excision of CIN in their study were cured (9). They explained this high ratio of cure that spontaneous regression and inflammatory responses of healing may play a role in destroying areas of residual CIN at the margins of incomplete excisions.

Besides, the reported mean time to recurrence in women with positive margins was not short, almost four years (10). Because of the enough time to follow up and catch any recurrence and low risk of persistent or recurrent or progressive disease, it is recommended that if CIN 2, 3 is identified at the margins of an excisional procedure or post-procedure endocervical curettage (ECC), cytology and ECC at four to six months may be used as a follow up tool. But repeat excision is acceptable and hysterectomy is acceptable if re-excision is not feasible. There is no conclusive data about higher detection rates of residual/recurrent disease by colposcopy than cytology. Because the difficulty in differentiating dysplastic acetowhite epithelium from immature squamous metaplasia, colposcopy is not preferred for routine follow up tool.

Management of women with endocervical cone margin involvement is also inconclusive. Paterson et al reported that the likelihood of requiring further surgery for residual CIN was related to endocervical margin involvement rather than ectocervical margin (11). They also demonstrated that involvement of the endocervical margin at the initial cone biopsy was a predictor of future abnormality with an incidence of subsequent abnormal cytology of 29% and residual disease of 82% in those undergoing further surgery. Shaco-Levy et al detected that 58% of the women who had positive margins and positive ECC had persistent/recurrent disease, compared with 21% of those who only had positive margins (12). They also reported that post-cone ECC along with margin status, patient age, and desire to preserve fertility, could be used in planning post-conization management. They recommended post-cone ECC at every conization procedure.

Kim WY et al studied the conservative management of stage IA1 squamous cell carcinoma of the cervix with positive margins after conization and recommended cold knife conization with electrocauterization as a safe treatment option for patients with stage IA1 cervical carcinoma if careful follow-up is guaranteed for patients with CIN 3 ectocervical resection margins (13). But for the patients with CIN 3 endocervical surgical margin, they recommended either repeat conization or hysterectomy. In their study 40 patients (%37) underwent additional hysterectomy after conization with electrocauterization. Among these, 27 patients (67.5%) had positive resection margins and 13 (32.5%) had negative resection margins after conization. One patient with positive ectocervical margin and 13 patients with positive endocervical margins had residual lesions in the hysterectomy specimen. They suggested that conservative management of patients with stage IA1 cervical cancer might be feasible even if the resection margin evidenced a high-grade lesion without invasive disease. The histopathology results showed that 14 (51.8%) patients with positive resection margins had no residual
tumor on their hysterectomy specimen, which is consistent with most reports that the prevalence of residual lesions ranges between 40% and 50% when the cone margins are positive.

Lapaquette et al studied the management of patients with positive surgical margins after conization (14). They found the incidence of resolution of CIN after conization with positive margins was 58%. Also they reported no significant difference in persistence of CIN between patients managed conservatively and managed surgically. They detected the persistence of CIN with involvement of endocervical margins and ectocervical margins was 47% and 13% respectively. Also, they found 45% CIN persistence among CIN III patients and 23% among CIN II patients. This study shows the locations of positive resection margins and degree of CIN in the conization specimens may play a role in the prediction of persistence of dysplasia in the patients had positive surgical margins.

After a detailed counseling, patient preference and plans for future childbearing should also be considered during the management (15, 16). Posttreatment HPV testing and cytology are the two important tools for follow ups (17).

In conclusion, a careful follow-up can be a good alternative to post-cone hysterectomy or recognition decision after the finding of positive cervical conization margin because of low risk of residual disease and low risk of progression.

REFERENCES


