RESEARCH COMMUNICATION

Results of Cervical Cone Excision Biopsy in Iran

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Abstract

Aims: The prevalence of cervical cancer in a developing country, and diagnostic therapeutic value of knife conization for CIN, indications, cytopathologic results and complications of conization, were evaluated. Methods: This retrospective- descriptive study concerned 44 cases that underwent conization. Results: The age range of patients was 18-75 (mean=43), and parity ranges were from 0-10 (mean 4-5), ten cases were post-menopausal. The main indication was inability to visualize the entire T zone (19 cases) that was more prevalent in post-menopausal (5 cases and 14 cases premenopausal). The most common pap smear result was HSIL in 16 cases before conization. The most common colposcopic biopsy result was moderate dysplasia in 16 cases. Two cases had invasive cancer on colposcopic- biopsy: one of them had ASCUS in pap smear result and another one HSIL. The most common histologic result after conization was mild dysplasia in 23 cases. Four cases had invasive cancer in histology of the cervix with conization. Active hemorrhage occurred in 2 cases and urinary infection in 1 case after conization. Conclusions: Pap smear results in screening of cervical cancer are not reliable and colposcopy is more acceptable for LSIL and ASCUS. All gynecologist should develop the skill to perform accurate knife conization, because the classical indications for conization continue to be valid, and it has low risk of complications.

Key Words: Cone biopsy - knife conization - LEEP - dysplasia - CIN - Pap smear

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Introduction

Cancer of the cervix is the most common malignant disease among the women of developing countries (Nieminen et al., 1995). Kolstad and Klem (1979) showed that knife conization is as appropriate as hysterectomy in treatment of in situ carcinomas and more than 95% of high grade CIN patients may be completely cured (Jones, 1990). Although there are new techniques being invented every day, conization can still be used (Campion 2004). Knife conization is used for those lesions that are extended into the endocervical canal with no proven invasive carcinoma and unsatisfactory colposcopy result (Spitzer et al., 1998).

In general, indications of knife conization include: not completely visualized T-Zone, no agreement between colposcopy and pap smear results, suspected invasive carcinoma or *in situ* adenocarcinoma. Among these, not completely visualized T-Zone has been the most important indication for conization in different studies (Massad et al., 1997; Spitzer et al., 1998; Montz, 2000; El-Toukhy et al., 2001).

At the John Hopkins hospital there are only two indications for performing a cold knife cone, and these are both settings where the ability to obtain an optimal specimen for pathologic assessment is critical: adenodisplasis of endocervix and a biopsy result consistent with microinvasive cancer (Montz,2000). Disadvantages of knife conization are mostly need to general anesthesia and it's complications but many reports have proved that it can be done safely with few complications and side effects (Krebs,1984; Warwick et al.,1992).

Other methods of conization include Co2 laser excision, with which depth and width of conization can be adjusted according to the lesion topography and T-Zone (Kolsted and Klem, 1979). Obtaining adequate amount of tissue for pathology examination is the main advantage of knife conization (Phelps et al.,1994). Also, by eliminating thermal artifact and tissue destruction produced by other techniques, an optimal specimen for histologic analysis can be provided(Montz et al.,1993). In a study on 699 patients, conducted by Mohamed Noor (1997), the treatment results with conization for CIN lesions were good and El-Toukhy (2001) obtained similar results.

The present study was designed to determine whether we can rely on the results of biopsy performed while colposcopy or still we need to go for knife conization. Also indications, complications and results of pap smear and colposcopic biopsy has been compared with that of histologic results of knife conization.

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Table 1. The Results of Coloposcopy Biopsy According to Pap Smear

Colposcopy-Biopsy / Pap Smear	Mild Dysplasia No.	Moderate Dysplasia No.	Severe Dysplasia No.	Invasive Carcinoma No.	Total No.
Normal	4	4	2	0	10
Benign cellular changes	2	3	0	0	5
ASCUS	0	5	1	1	7
LSIL	3	1	2	0	6
HSIL	6	3	6	1	16
Total	15	16	11	2	44

Table 2. The Results of Knife Conization Histology According to Pap Smear

Conization Histology / Pap Smear	Mild Dysplasia No.	Moderate Dysplasia No.	Severe Dysplasia No.	Invasive Carcinoma No.	Total No.
Normal	6	2	2	0	10
Benign cellular changes	4	1	0	0	5
ASCUS	3	1	2	1	7
LSIL	3	0	3	0	6
HSIL	7	3	3	3	16
Total	23	7	10	4	44

Patients and Methods

Cases

In this descriptive retrospective study all the patients who had undergone knife conization in Vali-e-Asr hospital, between 2001 and 2004, were included. The information was gathered by using the patients files.

Statistics

Statistical analysis was conductede with SPSS Ver. 12 software, using Mean and SD for qualitative variables and No. and percentage for quantitative variables.

Results

The number of patients was 44, with an age range from 18 to 75yrs. (Mean 43, Median=40). The parity of the patients was from 0 to 10 (Mean=4.36, Median=4) and 10 patients were post-menopausal. The indications for knife conization included: not visualized T-Zone in 19 cases, no proportion between colposcopy results and pap smear in 14 cases, suspicious invasive carcinoma in colposcopy in 7 cases and insitu adenocarcinoma in 4 cases. Suspicious invasive carcinomas were more frequent among menopause cases than pre-menopause patients.. The condition was the same for non visualized T-Zone, of menopause cases and pre-menopause patients.There were 2 cases with active hemorrhage and 1 with urinary tract infection.

The histology report of knife conization was mild dysplasia in 23 cases, moderate dysplasia in 7 cases, severe dysplasia in 10 cases and invasive carcinoma in 4 cases. Colposcopic biopsy results was mild dysplasia in 15 cases, moderate dysplasia in 16 cases, severe dysplasia in 11 cases and invasive carcinoma in 2 cases. The pap smear results were as follows : Normal in 10 cases, Benign cellular changes in 5 cases, ASCUS in 7 cases , LSIL in 6 cases and HSIL in 16 cases. The colposcopic biopsy results according to pap smear findings in Table 1 and the knife conization results according to pap smear in Table 2 are summarized.

Discussion

Knife conization of cervix has been a diagnostic and treatment method for CIN lesions, since years ago. In most studies, the most important indication for knife conization has been non visualized T-Zone during colposcopy (Spitzer et al., 1998; Montz, 2000; El-Toukhy et al., 2001; Massad et al.,1997).

In this study, 43.2% of cases underwent knife conization due to the same reason. After menopause the frequency of non-satisfactory colposcopy, increases significantly (Sheets, 2003).In this study, the frequency of menopause cases was more than those of pre-menopause too. The histology examination result of conization in this study, was mild dysplasia in most cases (52.3%) but in a study done by El-Toukhy et al (2001), severe dysplasia and mild dysplasia has been seen in 36% and 11% of cases respectively. The difference arises because many colposcopists do not rely on colposcopy results and insist more on conization even in mild dysplasia.

Conization histology considering pap smear, shows that among 4 cases of invasive carcinoma, 1 case had ASCUS in pap smear and the remaining 3 had HSIL. In 10 cases of severe dysplasia, 2 had normal pap smear, 2 ASCUS, 3 LSIL and 3 HSIL.

Considering the small number of cases and that this is a descriptive study, statistical analysis was not performed but we could judge that the pap smear results are not reliable measures for cervical cancer screening so colposcopy in LSIL or even ASCUS cases is recommended.

The results of colposcopic biopsy considering pap smear confirms this conclusion too because among 2 cases of invasive carcinoma, 1 had ASCUS and the other had HSIL in pap smear. In 11 cases of severe dysplasia, 2 had normal, 1 had ASCUS, 2 had LSIL and 6 had HSIL pap smear results so it's again confirmed that pap smear is only a screening mean and because of large number of false negative results can not be used as a diagnostic tools .In the study conducted by Sasieni (1996) on patients with cervical cancer showed that 49% of these patients have been well examined and followed-up during the recent 5 years before diagnosis. According to the study of Margariti (1998), Pap smear alone is not enough for screening of pre-invasive cervical malignancies.

The most significant complication of knife conization in previous studies has been bleeding, the frequency has been 20% (Spitzar, 2002; Jones ,1995; Hagen 1998) have reported it's frequency around 5-10% but according to

El-Toukhy's study (2000), bleeding occurs in 4% of the patients. In our study, bleeding was seen in 2 cases (4.5%) which is almost the same as recent studies but cervical stenosis as another complication of knife conization could not be evaluated.

Since some of cases with ASCUS pap smear result, had severe dysplasia and invasive carcinoma, it seems that in cases of abnormal pap smear even those with ASCUS, more investigation with colposcopy is needed, we recommend that correct technique of obtaining pap smear and more accurate histology reports, should be highly considered. Disadvantage of knife conization is mostly because general anesthesia and it's complications but although there are new techniques developed in recent years, knife conization has it's own specific indications.Knife conization is an accepted method in CIN control and if is correctly done, the complications would be the least. It's necessary for every gynecologist to increase self skill for an accurate knife conization of the cervix (Montz, 2000). More careful colposcopy and more accurate histology reports decreases the number of conization in LSIL pap smear and the patient is not to suffer a surgery.

Pap smear results in screening of cervical cancer are not reliable and colposcopy is more acceptable in LSIL and ASCUS. Any Gynecologist should develop the skill to perform an accurate knife conization, because the classical indications for conization continue to be valid, and it has low risk of complications.

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References

Campion MJ (2004). Preinvasive disease. In Berek JS, Hacker NF, eds. Practical Gynecologic Oncology. Philadelphia Lippincott Williams & Wilkins Press, pp 285-334.

El-Toukhy T.A, Mahadevan S, Davies AE (2001). Cold knife cone biopsy a valid diagnostic tool and treatment option for lesions of the cervix. *Obs Gyn*, **21**, 175-8.

Hagen B, Skjeldestad FE, Bratt H,et al (1998). Co2 laser conization for CIN II-III: complications and efficacy. *Acta Obstet Gynecol Scand*, **77**, 558-63.

Jones III HW (1990). Treatment of cervical intraepithelial neoplasia. *Clin Obstet Gynecol*, **33**, 826- 36

Jones III HW (1995). Cone biopsy and hysterectomy in the management of cervical intraepithelial neoplasia. *Baillieres Clin Obstet Gynecol*, **9**, 221-36.

Kolsted P, Klem V (1979). Long term follow up of 1121 cases of carcinoma-insitu. *Obstet Gynecol*, **48**, 125-9.

Krebs HB (1984). Out patient cervical conization. *Am J Obstet Gynecol*, **63**, 430-4.

Margariti PA, Balsamo G, Gullotta G, et al (1998). Management of CIN of uterine cervix: 110 cases treated by cold- knife conization. *Eur J Gyn Oncol*, **19**, 253-6.

Massad LS, Chronopoulos FT, Cejtin HE (1997). Correlating cone biopsy histology with operative indications. *Gynecol Oncol*, **65**, 286-90.

Mohamed- Noor K, Quinn MA, Tan J (1997). Outcomes after cervical cold knife conization with complete and incomplete excision of abnormal epithelium: a review of 699 cases. *Gyn Onc*, **67**, 34-8.

Montz FJ (2000). Management of high grade cervical intraepithelial neoplasia and low grade squamous intraepithelial lesion and potential complications. *Clin Obstet & Gyne* , **43**, 394-409.

Montz FJ, Holschneider CH, Thompson LDR (1993). Large loop excision of the transformation zone: Effect on the pathologic interpretation of resection margins. *Obstet Gynecol*, **81**, 976-82.

Nieminen P, Kallio M, Hakama M (1995). The effect of mass screening on incidence and mortality of squamous and adenocarcinoma of cervix uteri. *Obstet Gynecol*, **85**, 1017-21.

Phelps JY, Ward JA, Szigeti J, et al (1994). Cervical cone margins as a predictor for residual dysplasia in post-cone hysterectomy specimens. *Obstet Gynecol*, **84**, 128-30.

Sasieni PD, Cuzick J, Lynch- Farmery E (1996). The National Co – ordination Network for Cervical Screening Working Group. Estimating the efficacy of screening by auditing smear histories of women with and without cervical cancer. *Br J Cancer*, **73**, 1001-5

Sheets EE (2003). Management of the abnormal pap smear. In: Scott JR. Gibbs RS. Karlan BY. Haney AF. Eds Danforth 's obstetrics & Gynecology . Lippincot Williams and Wilkins, Philadelphia pp 941-50.

Spitzer M, Brotzman GL, Apgar BS (2002). Practical therapeutic options for treatment of cervical intraepithelial neoplasia. In: Apgar, Brozman, Spitzer. Eds, Colposcopy Principles and Practice. Lippincot Williams and Wilkins, Philadelphia, pp 447-62.

Spitzer M, Chernys AE, Shifrin A, et al (1998). Indications for cone-biopsy: pathologic correlation. *Am J Obstet Gynecol*, **178** , 74-9.

Warwick A, Redman C, Igwe F,et al (1992). Cervical cone biopsy: a report of one hundred consecutive operations performed as day cases. *Br J Obstet Gynecol*, **99**, 935-6.

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