Correlation between preoperative diagnosis and histopathological changes in preneoplastic cervical lesions

Izabella Diana Erdelean [1], Diana Maria Anastasiu[1], Dorin Grigoras[1], Ioan Sas[1], Alice Dema[2], Doru Anastasiu[1]

1. Department of Obstetrics and Gynecology, Neonatology, "Victor Babeș" University of Medicine and Pharmacy Timișoara
2. Department II of Morphology, "Victor Babeș" University of Medicine and Pharmacy Timișoara

Correspondence: Dr. Izabella Diana Erdelean e-mail: erdelean.izabella@gmail.com

Abstract

The aim of our article was to study the concordance between the pre-operative and the postoperative histopathological diagnosis in 71 patients with preneoplastic cervical lesions. We included in our study 71 patients with preinvasive lesions of the cervix that were diagnosed and treated in our department. The preoperative diagnosis was based on cytology and colposcopy. Each case underwent a colposcopically guided biopsy and a histopathological examination of the biopsied sample. Five out of 71 patients showed high-grade squamous intraepithelial lesions, 48 patients showed low-grade squamous intraepithelial lesions and 18 patients, atypical squamous cells of undetermined significance changes. A good concordance was found between pre- and post-operative diagnosis. Our results highlight the necessity of a competent colposcopic diagnosis before the use of a therapeutic intervention in order to minimize misdiagnosis in preneoplasic cervical lesions.
Keywords: *cervical lesion, colposcopy, treatment*

Introduction

It is demonstrated that the untreated cervical lesions might evolve into malignant lesions[1,2,3]. The management of benign and precancerous cervical lesions has changed over time, according to the progress of early diagnosis and the development of medical equipment, oscillating between two extremes: total hysterectomy and cauterization of the cervical lesions[4,5]. A third factor occurs in determining the therapeutic strategy, namely the attitude of the patient in choosing the therapeutic method. Women who suffer from cancerophobia will put pressure on the medical staff to choose the radical strategy, represented by total hysterectomy[6].

There is also a risk represented by a number of invasive cancers under-diagnosed and treated as intraepithelial lesions, using a destructive method, the causes of the error being related to the preoperative diagnosis[7,8,9].

Therefore, a strong emphasis is put on investigating the cervical lesions, the treatment being approached only when there is a certain positive diagnosis. The diagnosis is based on cytology, colposcopy and histopathological examination[8,10,11]. The colposcopy helps to locate the lesion, to evaluate its severity and to take the most appropriate therapeutic decision. Colposcopy also allows the identification of the zones where a targeted biopsy should be performed[5,12,13].

In our article we aim to study the concordance between the preoperative and the histopathological diagnosis in 71 cases with cervical lesions.

Received: *January 01, 2015*
Revised: *January 15, 2015*
Accepted: *February 19, 2015*

Methods

We included in our study 71 cases with preinvasive lesions of the cervix that were diagnosed and treated in our department. The preoperative diagnosis was based on cytology and colposcopy. Each case underwent a colposcopic guided biopsy and a histopathological examination from the biopsied sample. We use the Bethesda system classification to describe cervical smear results and CIN classification to describe the histological changes.

We analysed the concordance between citological diagnosis and histpathological diagnosis performed in colposcopically guided sampled biopsies.

Results

Demographic characteristics of the patients

From 71 patients, 49 patients (69.01%) were from urban areas and 22 patients (30.9%) from rural areas. According to the parity the patients were primiparous (38.57%), secundiparous (44.50%) and multiparous (16.93%).

Analysis of the age of patients treated for preinvasive lesions of the cervix showed that 42 patients were of an age between 26-35 years (59.12%), 20 patients of an age between 36-42 years (28.16%) and 9 patients of an age between 43-52 years (12.67%).

Cytological features and concordance with histopathological results

Five out of 71 patients showed high grade squamous intraepithelial lesions (HSIL), 48 patients, low grade

Table 1 Concordance between the pre- and post-operative diagnosis

Preoperative diagnosis	CIN I postoperative diagnosis		CIN II postoperative diagnosis	
	Number of cases	%	Number of cases	%
HSIL (5)	1	20	4	80
LSIL, ASC-US (48+18=66)	61	92.42	5	7.58
Total	62	87.32	9	12.67

squamous intraepithelial lesions (LSIL) and 18 patients, atypical squamous squamous cells of undetermined significance (ASCUS) changes. The concordance with histopathological findings is presented in Table 1.

Occurrence of human papilloma virus (HPV) infection according to cytological features in preinvasive lesions of the cervix

HPV typing was performed in 24 patients: 7 cases with ASCUS, 6 with HSIL, and 11 cases with LSIL. In two cases an infection with HPV type 16 and 18 was diagnosed (both cases HSIL) and in 11 cases a HPV infection with low oncogenic risk (four cases HSIL and seven cases LSIL), the most common being 6 and 11 types. In 11 cases HPV infection was absent.

Discussion

Treatment methods of preinvasive lesions of the cervix are destructive and excisional[12,14,15]. For outpatient services, many practitioners continue to prefer one of the destructive methods: electrocautery, cryotherapy or vaporization with CO_2 laser. Unfortunately, the number of cases of high grade cervical lesions or invasive cancer that were underdiagnosed or treated as intraepithelial lesions using a destructive method proved to be large in numerous studies[5,15]. The choice of an inappropriate therapy can negatively influence the prognostic of these patients.

Conclusions

Our results showed a good concordance between preoperative diagnosis based on cervical smear and histopathological changes, if the biopsy is performed under colposcopic guidance. However, the study shows that there are certain under- or over-diagnosed cases. Our results highlight the necessity of a competent colposcopic diagnosis before using a therapeutic intervention in order to minimize misdiagnosis in preneoplastic cervical lesions. ■

References

1. Apgar BA, Brotzman GL, Spitzer M. Colposcopy - principles and practice, Elsevier 2nd, edition 2009.
2. Abu J, Davies Q. Endocervical curettage of the time of colposcopic assessment of the uterine cervix: Obs Gynecol Surv 2005, 60 (5), 15-20.
3. Anastasiu D, Caradja V, Mureşan C, Anastasiu DM, Dema A. Conization – eclectic conduct in diagnosis and treatment of the invasive lesions of the cervix in:Cervical cancer, Ed. „Vasile Goldiş" University Press, Arad, 2011, 65-72.
4. Ancăr V, Hudita D, Bacalbaşa G. et al. Conization as a method of early detection of cervical cancer – volume of the National Congress of Obstetrics and Gynecology, Braşov, 1989, 280.
5. American Society for colposcopy and Cervical Pathology 2006, Consensus Guidelines for the Management of Women with Abnormal Cervical Cancer Screening Test, downloaded from http://www.ascep.org/consensus/cytological.shtml, 2nd January 2014.
6. Badea M, Virtej I. Preinvasive cervical pathology synopsis, Bucureşti, Ed. Info Medica, 2003.
7. Grisot C, Haucini J, Giusianos S, Houvenaeghel G, Agostini A, d'Ercole C, Boubli L, Prendville W, Carcopino X. How to optimize excisional procedures for the treatment of CIN? The role of colposcopy. Archives of Gynecology and Obstetrics 2011, 285(5), 1383-90.
8. Cochrane Gynecological Cancer Review Groups Specialized Register and Mo-Trials Database, Cochrane Central Register of Controlled Trials (Central) (Issue, 2, 2007) Medline and EMBASE (June 2007).
9. Jahn F, Tăurescu E. Conization of the uterine cervix, using the two cones method Ed, „Vasile Goldiş" University Press - Arad, 2011, 130-5.
10. Janks S, Edmonds P, Dunton C, King SA. Margin status and excision of cervical intraepithelial neoplasia: a review. Obstet Gynecol Surv 2000, 55 (8), 520-7.
11. Kyrgion M, Kaliopoulos G, Martin-Hirsch P, Arbyn M, Prendiville W, Paraskevaidis E. Obstetric outcomes after conservative treatment for intraepithelial or early invasive cervical lesions: systematic review and meta-analysis. Lancet 2006, 367 (9509), 489-98.
12. Martin-Hirsch PL, Paraskevaidis E, Kitchener H. Surgery for cervical intraepithelial neoplasia, Cochrane Database Syst Rev 2000 (2), CD001318.
13. Miroshnichenko GG, Parva M, Hotz DO, Klemens JA, Dunton CJ. Interpretability of excisional biopsis of the cervix: cone biopsy and loop excision L. Low Genital Tract DIS 2009, 13(1), 10-2.
14. Mureşan D, Stamatian F, Cotutiu P, Apostol S, Rotar I. Concordance of preoperative diagnosis with the pathological results in cervical dysplasia, Rev Obtet Ginecol LXI 2013, 167-72.
15. Rotar I, Mureşan D, Ona VD, Stamatian F. Current considerations on the diagnosis and treatment of cervical intraepithelial neoplasia. An approach from the clinician's point of view. Rev Obstet Ginecol LXI 2013, 129-38.