

# Conisation and cervical dysplasia concordance between cytology, Colposcopy and histology

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## Abstract

Conization is a crucial component of the diagnosis and, more importantly, the management of neoplasia found by cytology. We attempted to incorporate conization into the diagnosis and treatment toolkit for precancerous conditions of the uterine cervix in light of a retrospective series of 15 cases. It is required for the diagnosis of microinvasion and enhances the diagnostic yield offered by cytology and biopsy by itself or when guided by colposcopy. In 82% of the cases in our series, the FCU was in agreement with conization, but in 12% of the cases, it overstated the lesion. In 67% of cases, a biopsy resulted in an appropriate diagnosis. In 20% of cases, it overstated the lesions, and in 12% of cases, it underestimated them.

**Keywords:** cervical dysplasia; cytology; colposcopy and histology

## Introduction

The development of cervical dysplasia or intra-epithelial neoplasia (cervical intra-epithelial neoplasia: CIN) begins at the squamous cell junction.

Prevention mainly consists of detecting precancerous lesions using regular FCU.

Care of patients with a positive screening test is becoming more explicit. It is based on carrying out a colposcopy accompanied by cervical biopsies.

If a precancerous lesion is discovered, treatment by conization can be offered.

Our study aims, during a retrospective series, to analyze the results of conization of the cervix, which remains the reference intervention in the treatment of high-grade intraepithelial neoplasia, and to carry out a critical analysis of the comparison between the data of the cervical-uterine smear (FCU), biopsies and the histological results of conization.

## Materials and methods:

We carried out a retrospective study concerning 15 women who underwent conization at the Mohammed VI center for the treatment of

cancers at the IBN ROCHD University Hospital of CASABLANCA during a period spanning from 2018 to 2019.

FCU results are established according to the Bethesda classification.

The results of colposcopy are expressed according to the terminology of the French society of colposcopy and cervicovaginal pathology.

The search for agreement between the different qualitative parameters was carried out by calculating the concordance coefficient: Cohen's k.

The coding and processing of the data as well as the calculation of the sensitivity were carried out using Excel software. The analysis was carried out by the Epi info 7 software.

## Results:

Conization was carried out in all patients either for therapeutic purposes or for diagnostic and therapeutic purposes.

## In our study conization was indicated in

INDICATION	NUMBER	%
CIN2	6	40%
CIN3	6	40%
CIS	1	6.67
DISCORDANCE COLPO-CYTOHISTOLOGICAL	2	13.33

For discordance in the colpo-cyto-histological tripod

- 1 case for HSIL lesion on FCU and CIN1 on biopsy
- 1 case for ASCUS lesion on FCU and TAG 2 on colposcopy and CIN1 on biopsy.

Two techniques were used in the practice of conization, 13 cases by cold scalpel (86.67%) and 2 cases by electric scalpel (13.33%).

FCU	OPERATIVE ROOM
HSIL	CIS
HSIL	CIS
HSIL	CIN1
HSIL	CIN3
HSIL	CIN3
HSIL	CIN2
HSIL	CIN2
HSIL	CIN2
HSIL	CIN2
HSIL	CIN1
LSIL	CIN1
ASCUS	CIS
ASCUS	CIN2
NOT DONE	CIN2
NOT DONE	CIN3

**Table 1 : - Results of FCU and operating room.**

In 9 cases (82%) we noted a concordance between the results of the smear and those of the specimen. 2. A discrepancy: due to an excessive estimate in two cases (12%) The comparison between the results of the FCU and the histological results of the conization specimen aims to establish a correlation between the severity of the cytologic abnormalities of the FCU

and the severity of the histological results of conization. Based on this statistical analysis, there was moderate agreement with a kappa of 0.421.

The sensitivity rate was 81% and it was impossible to calculate the specificity given that our sample only contained positive FCUs.

COLPOSCOPY	OPERATIVE ROOM
Not specified	CIS
Not specified	CIS
TAG 2	CIN1
Not specified	CIN3
Not specified	CIN3
TAG1	CIN2
Not specified	CIN2
Not specified	CIN2
Not specified	CIN2
Not specified	CIN1
TAG1	CIN1
Not specified	CIS
TAG2	CIN2
Not specified	CIN2
Not specified	CIN3

**Table 2 : - Colposcopy results and operating specimen.**

04 patients had undergone colposcopy.

Thus, we note a concordance of 25% between the results of colposcopy and those of the operating specimen in one case. 2. A divergence: in 3 situations, or 75%.

The analysis of the colposcopic pictures and the histological results on the conization specimen aims to establish a correlation between the severity

of the colposcopic abnormalities and the severity of the histological results.

In this analysis, there was no significant relationship because the kappa coefficient was zero.

The sensitivity was 33% and it was impossible to calculate the specificity given that our sample only includes positive cases.

BIOPSY	OPERATIVE ROOM
CIS	CIS
CIN3	CIS
CIN3	CIN1
CIN3	CIN3
CIN3	CIN3
CIN2	CIN2
CIN2	CIN2
CIN2	CIN2
CIN2	CIN2
CIN1	CIN1
CIN2	CIN1
CIN3	CIS
CIN1	CIN2
CIN2	CIN2
CIN3	CIN3

**Table 3 : -Biopsy results and surgical specimen.**

In 10 cases, or 67%, we noted a concordance between the results of the biopsy and those of the surgical specimen. 2. A divergence in 5 situations. The results of the cervical biopsy are compared to the histological results of the conization specimen in order to seek a correlation between the degree of severity of the histological abnormalities of the biopsy and the severity of the histological results of the conization. According to this statistical analysis, there was no significant relationship because the coefficient was of low significance (KAPPA coefficient of

0.286).

The histological result of colposcopy-directed cervical biopsy is 76% sensitive.

**Discussion:**

Concordance biopsy / colposcopy / conization / FCU / results

**Cyto-histological agreement**

authors	year	Rate of concordance cytohistological
Elbahja	2011	87.67%
LANSAC	2007	86%
PORT	2003/2005	60.7%
PORT	2002/2005	68.5%
PORT	2003/2004	57.9%

**Painting: -Concordance rate according to the authors.**

**Colpo-histological agreement**

The probability of having a CIN2 and 3 type lesion, or even the beginning of invasion (CIN2+), increases with the severity of the anomalies at the initial FCU and with the severity of the colposcopic impression.

In patients with CIN 2 on biopsy, the risk of diagnosing a CIN2+ type lesion on the surgical specimen would be 37% for a patient with low grade FCU and whose coposcopy impression is also low grade, versus almost 70% in cases of high-grade FCU with the presence of major abnormalities on colposcopy [1,2]. that is to say that the risk of having CIN 2+ on the analysis of the conization specimen for patients with a diagnosis of CIN2 on biopsy is 2.8 times greater in the case of high-grade FCU than for those with a low-grade smear (OR: 2.8; 95% CI: 1.7-4.8; p<0.0005)[2].

The performance of colposcopy also depends on the position of the internal boundary of the junction zone. colposcopy is all the more effective when the internal limit of the transformation zone is entirely exocervical.[3]

**In our series, we note**

A concordance in 1 case (25%) between the results of the colposcopy and that of the surgical specimen A discrepancy in 3 cases (75%)

1. An overestimation in 1 case (25%) the colposcopic examination was evaluated by a TAG2 versus CIN1 at the level of the operating specimen.
2. An underestimation in 2 cases (50%) with 1 case in which the colposcopic examination was underestimated by a TAG 1

against CIN2 at the level of the operating part, and 1 case in which the colposcopic examination was underestimated by a TAG1 against CIN 1 at the operating room.

In our series we noted a concordance in 9 cases (82%) between the results of the smear and that of the surgical specimen. an overestimation in 2 cases (12%): the cytological diagnosis was overestimated by the presence of HSIL compared to CIN 1 in the surgical specimen.

### Biopsy/conization agreement

According to Badlauf and Ritter [4], the overall histological concordance was 73%. They counted the errors in under- or over-evaluation (41.7% to 54%) with 47% in the case of low grade, 88% in the case of high grade, 21% for metaplasia and 96% for cancers. the overevaluations were the result of small lesions, which the biopsy had perhaps removed entirely, or which had regressed spontaneously in a process of healing and tissue repair following the trauma of the biopsy.

The main causes of under-evaluation of biopsy results (5 to 30%) were the endocervical location of the lesions during inconclusive colposcopies and the error of the colposcopist who did not direct the biopsy to the most severe lesion.[11]

Zmatkov [5] evaluated the diagnostic accuracy of directed biopsies in 60 patients with abnormal cytological, in 47 (78.3%) of them, there was a coincidence within one degree of the histological results. For the remaining 13 cases, 4 represented false positives (6.7%), and 9 represented false negatives (15%). The sensitivity was therefore 83% and the positive predictive value 91.7%.

In our series we noted a concordance in 10 cases or 67% between the results of the biopsy and that of the surgical specimen, an underestimate: in 3 cases or (20%), with CIN3 on the biopsy and CIS to the operating specimen in 2 cases, and CIN1 0 the biopsy and CIN2 to the operating specimen in 1 case. An over-estimation: in 2 cases, i.e. (13%): with CIN 2 on the biopsy and CIN1 on the surgical specimen in 2 cases, and CIN3 on the biopsy and CIN1 on the operating specimen in 1 case.

### Conclusion:

The FCU-colposcopy-cervical biopsy tripod, and the concordance between its elements makes it possible to assess the risk of ignoring an early invasive cervical lesion and to guide the clinician in its management.

Conization is confirmed as a reference technique in the management of precancerous lesions of the cervix due to its effectiveness and safety,

however it requires a prerequisite, namely adherence on the part of the patient to monitoring that is as necessary as it is restrictive.

### References:

1. Mitchell MF, Schottenfeld D, Tortolero-Luna G, Cantor SB, Richardskorum R. (1998). Colposcopy for the Diagnosis of Squamous Intraepithelial Lesions: A Meta-Analysis. *Obstet gynecol*; 9 :626-631.
2. Castle Pe, Stoler MH, Solomon D, Schiffman M. (2007). The Relationship of Communitybiopsy-Diagnosis Cervical Intraepithelial Neoplasia Grade 2 to the Quality Control Pathology-Reviewed Diagnoses: an alts report. *Am j clin pathol*; 127: 805-815.
3. Pretorius RG, Bao YP, Belinson JL, Burchette RJ, Smith JS, et. al., (2007). Inappropriate Gold Standar Bias In Cervical Cancer Screening Studies. *Int J Cancer* 121: 2218-2224.
4. Baladauf JJ, Ritter J (1999). Anaes: Review of The Literature on The Reproducibility of Low-Grade Lesions and Of Atypical Cells of Indeterminate Significance (Ascus). *Ann pathol*, 19 (5 additional): s82-84
5. Zlatkov V, Slavchev B, Mikhova A. Is the directed biopsy accurate? *Akush Ginekol (Sofia)*. 2003; 42(4): 17-20
6. Zuchna C, Hager M, Tringler B, Georgouloupoulus A, Ciresa-Koenig A, et. al., (2010). Diagnostic Accuracy of Guided Cervical Biopsies: A Prospective Multicenter Study Comparing the Histopathology of Simultaneous Biopsy and Cone Specimen. *Am J Obstet Gynecol*. oct; 203 (4): 321. E 1-6.
7. El Bahja. (2011). D Thesis Evaluation of The Management of Cervical Dysplasia In 396 Patients Treated by Conization. *Nante University Hospital*. No. 3741.
8. Lansac J (2007). 3rd Part Practical Recommendations. CNOF, 31st National Day Paris.
9. Duport N (2007). Part 3 Practical Recommendations. CNOF, 31st National Day Paris.
10. Diakomanolis. Emmanuyel Alexandros Rodolakis. MD. (1999). Diagnosis Conization for Cervical Neoplasia During Pregnancy Using the Nco2 Laser. *Journal of Gynecologic Surgery* Vol15, n4.
11. Kristensen J, Langhoff –Roos J, Kristensen Fb. (1993). Increased Risk of Preterm Birth in Women with Crvical Conization *Obstet Gynecol*, 81:1005-1008
12. Nucci Mr, And Crum Cp. (2007). Redefining Early Cervical Neoplasia / Recent Progress. *Adv Anat Pathol* 14:1-10.



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