

*Research Article***Endocervicopy in the Diagnostic Workup of Cervical Intra-Epithelial Neoplasia.**

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Abstract

Objective: To propose and validate endocervicopy, a new technique for patients with squamous intraepithelial lesion. **Design:** descriptive cross-sectional study. **Setting:** The early cancer detection unit, department of Obstetrics and Gynecology; Minia University Hospital – Faculty of Medicine, Minia University. **Patient(s):** The study population was recruited from the attendees of the out-patient clinic of Minia University Hospital, between the periods of February ٢٠١١ to April ٢٠١٣. The present study included ٣٥٠ patients, ٢٣ patients were excluded from the study. **Intervention(s):** Endoscopic evaluation of the endocervical mucosa, performed with an office continuous-flow hysteroscope after application of acetic acid ٥% (endocervicopy). Patients diagnosed with abnormal cervical findings underwent targeted biopsies of the visualized abnormalities. Negative patients at endocervicopy underwent four quadrant biopsy of the endocervix. **Main Outcome Measure(s):** Sensitivity, specificity, accuracy, positive predictive value (PPV), and negative predictive value (NPV) of endocervicopy plus targeted biopsy. **Result(s):** Endocervicopy plus targeted biopsy showed a sensitivity of ٨٧.٥%, a specificity of ٩٨.٤%, a diagnostic accuracy of ٩٨.١%, a PPV of ٥٨.٣%, and a NPV of ٩٨.٢%. **Conclusion(s):** Endocervicopy appears to be a safe and effective office technique, improving the diagnostic work-up of cervical intraepithelial lesions. The precise localization of the lesions allows for the depth of cone excision to be tailored, thus leading to a more conservative treatment and preserving the future fertility of women.

Key Words: Endocervix, cervical intraepithelial neoplasia, curettage, Endocervicopy

Introduction

New diagnostic imaging techniques for the endocervix need to be implemented, which might integrate the colposcopic imaging and counter the diagnostic inaccuracy of the ‘blind’ methods. A new diagnostic imaging technique, such as endocervicopy, may represent an useful tool for the clinicians in that it would allow the precise definition of the lesion by overcoming the limits of the current techniques (Bifulco et al., ٢٠١٠).

Aim of the Work: This work aimed to evaluate the diagnostic performance of Endocervicopy to enhance the detection of endocervical lesion in women being evaluated for cervical intra-epithelial neoplasia.

Patients and Method: This descriptive cross-sectional study was conducted in the early

cancer detection unit (ECDU), department of Obstetrics and Gynecology; Minia University Hospital – Faculty of Medicine, Minia University. The study population was recruited between the periods of February ٢٠١١ to April ٢٠١٣; included ٣٥٠ patients, ٢٣ patients were excluded from the study. The aim and technique of the study were simply explained to the patients. The study protocol was approved by scientific ethical committee research of the department of Obstetrics and Gynecology, faculty of Medicine, Minia University at its monthly meeting on December ٢٠١٠. Also approval was ascertained from the Institutional Review Board of the University Hospital-Quality control unit of the faculty of Medicine, Minia University on January ٢٠١١. All patients were counseled about the procedure and verbal and signed an informed consent before treatment.

Inclusion criteria: All patients were; Married female; at least ١٨ years of age with negative pregnancy test and recent positive PAP smear

Exclusion criteria:

Suspicion or evidence of invasive lesions on Pap smear, biopsy, or colposcopic examination, current PID or other gynecological infection, current menstruation, cervical stenosis, cervical or vaginal mass and Poor compliance.

- All the women referred to ECDU from out patient clinic for evaluation with positive PAP smear results then were evaluated by colposcopy and histopathology, Followed by endocervicoscopic assessment. And according to the result; the patients were assigned either to do directed biopsy if there was visible lesion or four quadrant random biopsy if there was no visible lesion.
- **All women included in the study were subjected to:** A thorough medical history ; after that a physical examination was performed. Then;
- **Coloposcopic evaluation;**
- **Endocervicoscopic examination:**

The first step of endocervicoscopy (a vaginoscopic approach); the vagina was distended by introducing the fluid distention medium. As soon as the external uterine orifice was visualized, the irrigation of saline was stopped and a syringe with ٢ mL of ٥% acetic acid was connected to the inflow channel of the hysteroscope. In this way the impregnation of the cervix was directly and clearly visualized. The trophism, vascularization, and morphology of the endocervical mucosa were evaluated.

Normal Finding of endocervicoscopy:

The canal of the cervix appears spindle-shaped. Longitudinal crests of the endocervical mucosa are seen protruding into the cavity anteriorly and posteriorly as the plicae palmatae. Secondary oblique branching of the mucosa gives the appearance of a tree and constitutes the arbor vitae

Abnormal finding:

- **Atypical TZ:** acetowhite epithelium, mosaicism, punctuation, iodine positivity and atypical vessels
- **Presence of benign lesion:** Mucous polyp, adenomatous polyp, masses, immature metaplasia...etc.

Endocervicoscopy was completed by an examination of the uterine cavity.

Patients were managed according to the histopathological findings which varied from LLETZ to hysteectomy which were done in fourteen cases.

Results:

The present study included ٣٥٠ women with positive Pap smear. Twenty three patients were excluded from the result along the course of evaluation and assessment, so about ٣٢٧ patients only who complete the maneuver.

The patient characteristics were as follow: Age of the patients ranged between ١٨-٦٢ years old,. Most of the screened cases had single marriage about ٢٤٥(٧٠%) patients. The duration of marriage ranged between ٢-٤١ years, with the mean ١٢.٥ ± ١٠.٥ years. (٥٨.٦%) of patients were of urban origin. The parity ranged between ٠-١٠ offsprings, ٦٧.١% of patients being of high parity (have>٤ offsprings). Regarding smoking, about (٤٤.٩%) were currently exposed to passive effect of smoking

Table (١): Distribution of the patients according to results of endocervicospscopy

Endocervicospscopy		NO. = ٣٢٧	Percentage
No lesion		٢٩٤	٨٩.٩%
Benign Lesion ٢١(٦.٤٣%)	Polyp	٨	٢.٤%
	Adenomatous polyp	٧	٢.٢%
	Metaplasia	٦	١.٨٣%
Atypical lesion ١٢(٣.٦٧%)	(Acetowhite epithelium, Mosaicism, Punctuation)	١٢	٣.٦٧%

Table (٢): Diagnostic performance of the endocervicospscopy in detecting endocervical lesion

	%	٩٥% confidence interval
Sensetivity	٨٧.٥	٠.٤٧٣ to ٠.٩٩٦
Specificity	٩٨.٤	٠.٩٦٣ to ٠.٩٩٤
Positive predictive value	٥٨.٣	٠.٢٧٦ to ٠.٨٤٨
Negative predictive value	٩٨.٢	٠.٩٨٤ to ٠.٩٩٩
Diagnostic accuracy	٩٨.١	

Discussion

Numerous techniques for the study of the endocervix (liquid-phase cytology, flow cytometric DNA analysis, microcolpohysteroscopy, endocervical curettage) have been developed and become widespread, substantially providing information available from the conventional Papanicolaou smear and those resulting from conization (Bifulco et al., ٢٠١٠).

Endocervical evaluation in the present study by direct endocervical vision, after priming with acetic acid, enabled us to diagnose the majority of the glandular lesions of the endocervix in patients recruited with Pap smear showing HSIL&AGC. Out of eight cases (٢.٤٥%) diagnosed by endocervical biopsy; all of them were CIN ٢ pathology or more. These results were matched with Williams and colleagues in ٢٠٠٠; in which the ECC was positive in only ٢.٥% of the cases, and none of these women were subsequently found to have greater than CIN ١ pathology. Also our results were comparable to Pretorius and colleagues (٢٠٠٤) who reported higher rates of positive ECC in ASCUS and LGSIL cytology (١٥.٦% and ١٤.٨% with greater than or equal to CIN ٢, respectively), but noted a much higher rate of positive ECCs in the setting of HGSIL on referral cytology (٣٨%

with greater than or equal to CIN٢). But our data was not matched with Krebs et al, ١٩٨٧ who considered that ECC was unnecessary in women who had a satisfactory colposcopic examination; neither matched with Massad and Collins at ٢٠٠٣, who studied ٢,٢٨٧ women undergoing colposcopies, and detected abnormal ECC that changed the management of ١٠٥ women (٤.٦%).

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الملخص العربي:

تم تصميم هذه الرسالة لتقييم إمكانية وفائدة استخدام المنظار الرحمي في تنظير عنق الرحم الداخلي كوسيلة إضافية للتقييم بواسطة منظار عنق الرحم المهبل لتتبع التغيرات الداخلية للنسيج الطلاني الحشفي لعنق الرحم. وقد تم إجراء هذه الدراسة في وحدة الكشف المبكر عن الأورام بقسم أمراض النساء والتوليد بمستشفى المنيا الجامعي (جامعة المنيا) في الفترة من فبراير ٢٠١١ إلى أبريل ٢٠١٣. وتمت هذه الدراسة على ٣٥٠ سيدة كانت نتيجة الفحص الخلوي لمسحات عنق الرحم ايجابية وذلك بعد استبعاد السيدات الحوامل أو الآتي تعانين من نزيف مهبل شديد أو تم إجراء جراحة لعنق الرحم حديثا وقد تم إجراء الآتي لكل سيدة :-

أخذ تاريخ مرضي دقيق ، وفحص إكلينيكي مفصل ، و تكرار مسحة من عنق الرحم وإرسالها للتحليل الخلوي ، و فحص عنق الرحم بالعين المجردة وبمنظار عنق الرحم المهبل قبل وبعد إضافة حمض الخليك بتركيز ٥% و البحث عن الأجزاء التي تصطبغ باللون الأبيض والتي يحتمل أن تكون حاملة للمرض ثم تم الفحص باستخدام نظام الكشف البصري مع منظار عنق الرحم المهبل والبحث عن الأجزاء التي يحتمل أن تكون حاملة للمرض وتم أخذ عينة أو أكثر من الأجزاء المحتمل إصابتها . وتم إرسال هذه العينات إلى التحليل الباثولوجي لتحديد كونها تحتوي على تغيرات داخلية للنسيج الطلاني الحشفي لعنق الرحم أم لا.

ثم تم الفحص باستخدام منظار عنق الرحم المهبل و التحليل الباثولوجي للعينات ثم استخدام المنظار الرحمي في تنظير عنق الرحم الداخلي ومقارنته بنتيجة الاختبار المعياري و هو التحليل الباثولوجي للعينات . وتم تجميع كل البيانات في ملفات خاصة ثم تم تقييمها إحصائيا.

وتم تقييم المرضى وثبت أن استخدام المنظار الرحمي في تنظير عنق الرحم الداخلي مع منظار عنق الرحم المهبل يعطي نتائج أعلى في القيمة التشخيصية الإيجابية (الحقيقية والمزيفة) وخاصة في تلك المجموعة التي لها نتائج مسحات عنق الرحم من الدرجة عالية الخطورة.

ومن هذه الدراسة وجد ان القيمة التنبؤية الإيجابية مع استخدام المنظار الرحمي في تنظير عنق الرحم الداخلي (٩٨.٢%) و القيمة التنبؤية السلبية كانت (٥٨.٣%).

ومن هذه الدراسة وجد ان استخدام المنظار الرحمي في تنظير عنق الرحم الداخلي يضاها في كل من القيمة التنبؤية الإيجابية ونسبة النتائج الحقيقية بالمقارنة مع الكحت الداخلي لعنق الرحم.