

# Prevalence of Abnormal Cervical Cytology and High-Risk HPV in Older Women with Pelvic Organ Prolapse

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## BACKGROUND

- At our institution, pelvic organ prolapse (POP) is primarily managed by urogynecologists. Since urogynecologists often do not specialize in the primary management of cervical cytology, strictly adhering to standard gynecologic oncology guidelines (e.g., immediate colposcopy or biopsy for cytological abnormalities) is frequently challenging in routine clinical practice.
- The clinical significance of mild cytological abnormalities in POP patients may significantly differ from the general screening population due to unique anatomical and physiological factors. Specifically, mechanical friction of the prolapsed cervix and severe estrogen deficiency in older women frequently cause chronic inflammation and cellular atypia, serving as major causes of false positives that mimic dysplasia.
- Uniformly applying standard oncologic protocols to this frail elderly population poses a substantial risk of over-investigation and unnecessary invasive procedures. In real-world settings, urogynecologists often defer immediate diagnostic workup in favor of follow-up observation. We hypothesize that for POP patients, this non-interventional approach might actually represent the correct and optimal clinical strategy.

## OBJECTIVES

To evaluate the real-world management of abnormal cytology by urogynecologists and to determine whether prioritizing a follow-up approach—rather than the immediate biopsy typically recommended by general gynecologists or oncologists—is clinically justified and safe for POP patients.

## PATIENTS

We retrospectively evaluated a cohort of 1,795 older women (excluding non-POP cases; mean age: 72.6 years) who underwent surgical intervention for pelvic organ prolapse at our institution between 2019 and 2024. All patients underwent preoperative cervical cancer screening.

## METHODS

- A retrospective cohort study was conducted using electronic medical records from our urogynecology department.
- Initial preoperative cervical cytology results (Bethesda System) and high-risk HPV (HR-HPV or HPV genotyping) testing status/results were evaluated.
- We thoroughly analyzed the subsequent real-world clinical management pathways chosen by urogynecologists, categorizing them into "immediate referral for colposcopy/biopsy" versus a "conservative approach" (e.g., repeat cytology or proceeding with POP surgery first).
- For patients managed conservatively, longitudinal follow-up outcomes were tracked to determine the rate of spontaneous regression to NILM.
- To clarify the mechanisms of false positives, final histological outcomes were scrutinized, with a specific focus on identifying cases of "vanishing CIN3" (cases initially diagnosed as high-grade dysplasia via biopsy but showing no malignant findings upon conization).

## RESULTS

Table 1: Prevalence of Cytological Abnormalities and HPV Status (N=1,795)

Cytology (Bethesda)	Count (n)	Percentage (%)
Normal (NILM)	1,771	98.6
Abnormal (ASC-US+)	24	1.3
- ASC-US / LSIL	11 / 2	0.6 / 0.1
- ASC-H / HSIL	5 / 5	0.3 / 0.3
- AGC	3	0.2
- SCC	0	0
HR-HPV Positivity	6 / 11	54.5

Table 2: Real-World Management and Follow-up Outcomes (n=24)

Clinical Course	Count (n)	Percent age (%)
Conservative Management	14	58.3
Immediate Referral for Biopsy/Colposcopy	12	50.0
Considered as mimics or spontaneously improved	17	70.8
Considered as true SIL	7	29.1

### Key Findings:

- **Prevalence & HPV:** The prevalence of abnormal cytology was 1.3% (24/1,795 cases), with zero cases of invasive cervical cancer. Among 11 patients tested for HPV, 6 (54.5%) were positive. Within the cases considered as "mimics," 6 underwent HPV testing, of which 3 (50%) were positive. Among cases considered true SIL, 4 underwent HPV testing, with 1 case (25%) testing negative.
- **Management & Regression:** Among the abnormal cases (ASC-US+), 5 cases (20.8%) were managed strictly conservatively by urogynecologists without immediate biopsy. Notably, all 5 cases (100%) eventually demonstrated spontaneous regression to NILM.
- **Pathology & Vanishing CIN3:** Final histological evaluations frequently revealed non-SIL abnormalities, such as severe atrophy and chronic cervicitis. Crucially, we confirmed two cases of "vanishing CIN3," where initial biopsies suggested high-grade dysplasia (CIN3), but subsequent conizations yielded absolutely no evidence of malignancy. This strongly suggests that physical inflammation related to severe prolapse profoundly affects cellular morphology.

## CONCLUSIONS

As evidenced by the high regression rate to NILM and the occurrence of "vanishing CIN3," mild to moderate cytological abnormalities in POP patients are frequently transient false positives (mimics) strongly associated with mechanical friction and severe atrophy. The conservative "wait-and-see" approach utilizing repeat cyK Otsukatology by urogynecologists appears to be a practical and safe strategy that effectively prevents over-triage and unnecessary biopsies in older patients. Future studies should focus on how to best stratify and integrate this conservative method with traditional oncological management practices.

## REFERENCES

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## DISCLOSURES

The authors declare no conflicts of interest associated with this study.

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