

Bridging Guidelines and Clinical Practice in the Management of Cervical Intraepithelial Neoplasia During Pregnancy



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Background

- Increasing maternal age at first childbirth and a rising incidence of cervical cancer in younger women have led to a growing frequency of cervical dysplasia and cervical cancer encountered during pregnancy.
- Cervical intraepithelial neoplasia (CIN) in pregnancy is generally managed conservatively until delivery.
- Colposcopic evaluation is often challenging due to pregnancy-related anatomical and hemodynamic changes.
- To avoid miscarriage and preterm birth associated with unnecessary or excessive intervention, accurate interpretation of colposcopic findings is essential, particularly in high-grade lesions.

Objective

To retrospectively evaluate the clinical course of cervical intraepithelial neoplasia (CIN) diagnosed during pregnancy, with a particular focus on the association between colposcopic findings and management decisions in CIN3 cases.

Methods

126 pregnant patients undergoing colposcopic biopsy after abnormal cervical cytology were retrospectively analyzed. Cases were classified as CIN1, CIN2, or CIN3 based on histopathology. Lesion progression during pregnancy was evaluated for each category.

Result

126 patients who underwent colposcopic biopsy during perinatal management at our institution

Colposcopy-Directed biopsy	After delivery						Total
	no	CIN1	CIN2	CIN3	CIN3 severe ~CIS	invasive	
During pregnancy							
CIN1	29	8	1	3	0	0	41
CIN2	15	4	4	2	0	0	25
CIN3	3	1	5	26	0	1	36
CIN3 severe ~CIS	1	2	2	2	3	1	11
Invasive	0	0	0	0	0	0	0
Total	48	15	12	32	4	2	113

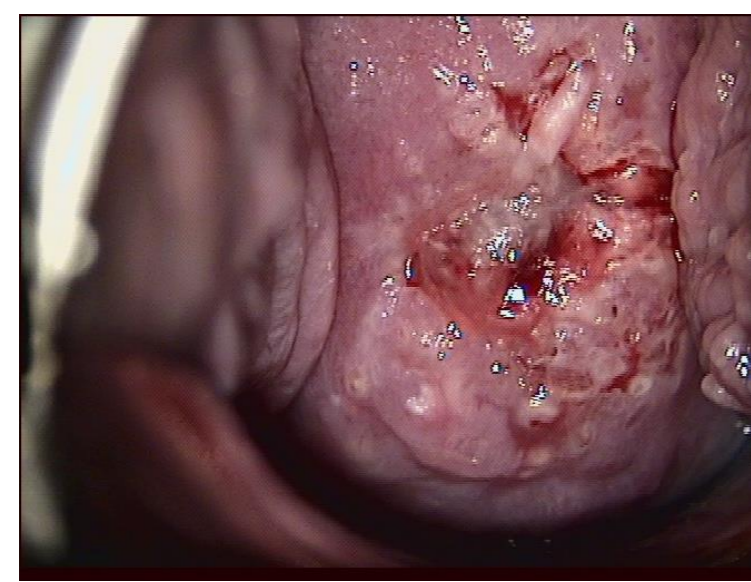
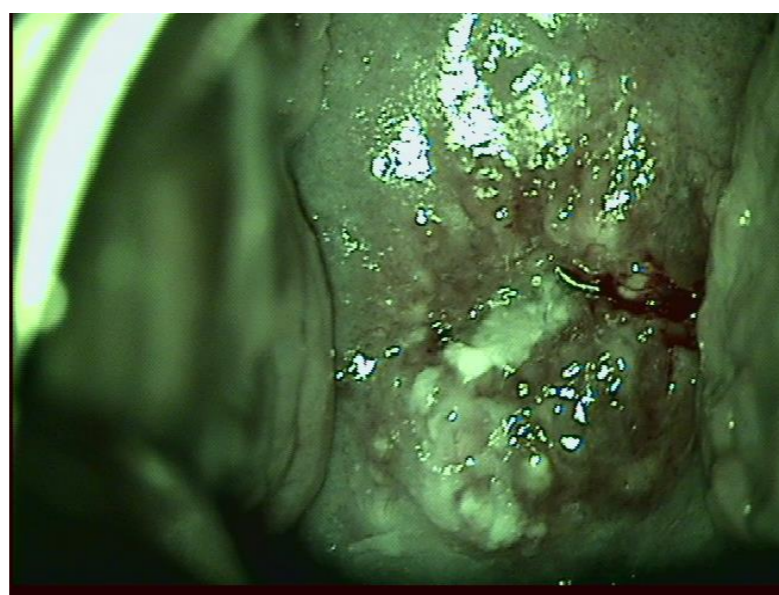
* 13 cases were excluded due to ineligibility; the analysis was conducted on 113 cases

Key Findings

- Disease progression during perinatal management was uncommon across all CIN grades (overall progression rate: 8/113 evaluable cases, ~7%).
- The majority of lesions showed persistence or regression rather than progression:
 - CIN1: regression or disappearance in 29/41 cases (~70%)
 - CIN2: regression or disappearance in 19/25 cases (~76%)
- Spontaneous regression was particularly frequent in low- and intermediate-grade lesions (CIN1-2).
- Even in high-grade lesions (CIN3 / severe-CIS), most cases remained stable (45/47, ~95%), with only minimal progression (1-2 cases per group).
- No invasive carcinoma was identified. (0/113).

Cases with clinical insights (n = 3)

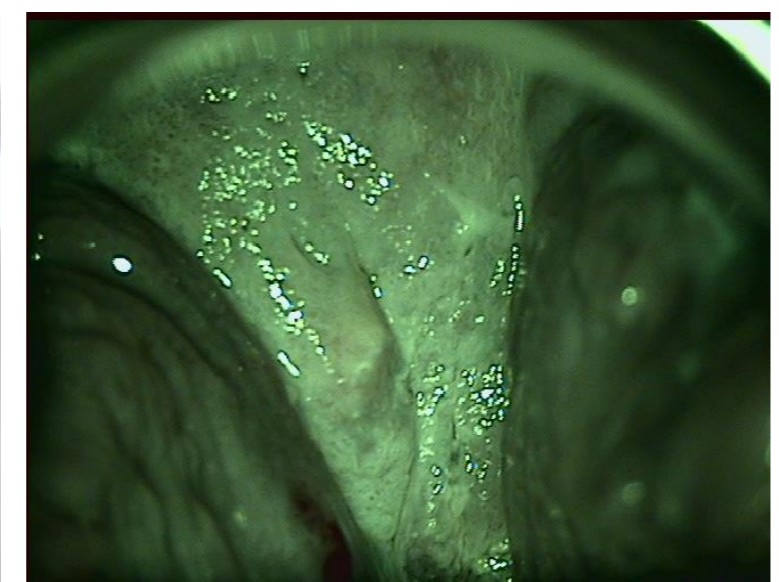
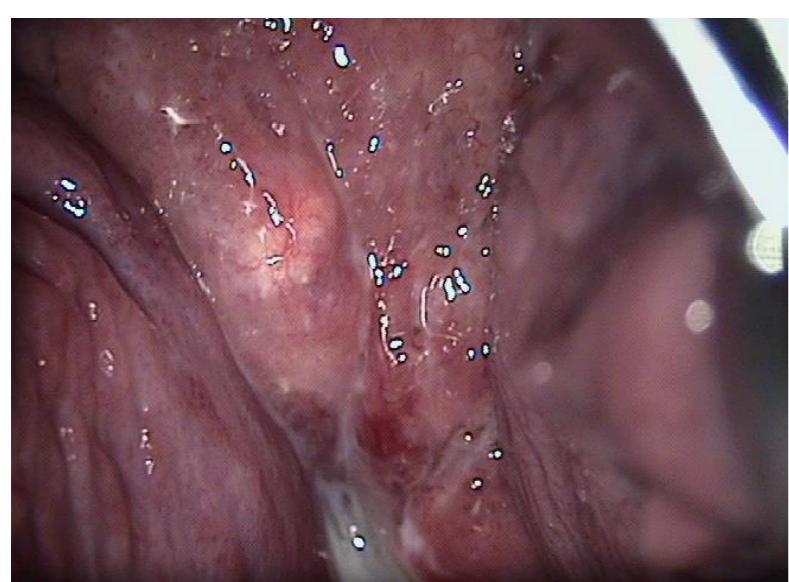
➤ Cases with colposcopic underestimation (n=2)



LSIL (early-mid pregnancy) → HSIL/CIN3 (late pregnancy) → conization postpartum

LSIL (early pregnancy) → HSIL/CIN3 (mid-pregnancy) → conization postpartum

➤ Accurate colposcopic diagnosis of CIN3(n=1)



HSIL/CIN3 during pregnancy → conization postpartum

Conclusion

- In the management of cervical intraepithelial neoplasia (CIN) during pregnancy, the primary objective is not the treatment of CIN itself, but the reliable exclusion of invasive carcinoma.
- In cases of CIN3 during pregnancy, proper understanding of pregnancy-specific colposcopic findings may allow the exclusion of invasive carcinoma, enabling avoidance of therapeutic intervention in cases where invasion can be ruled out.
- A management strategy based on stepwise evaluation using colposcopic findings, with reassessment after delivery, is useful for ensuring maternal and fetal safety while avoiding overtreatment.

COI Disclosure Information
 Lead Presenter : Noriko Ogawa
 Principal Researcher : Yoshimichi Tanaka
 We have no financial relationships to disclose.