

Serial phase-based transvaginal ultrasound improves detection of endometrial polyps using IETA criteria



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Objective

To evaluate phase-specific IETA features for detecting endometrial polyps and assess the clinical value of serial transvaginal ultrasound (TVUS) in infertility practice.

Method

-We retrospectively reviewed 151 women with TVUS findings suggestive of endometrial polyps who underwent hysteroscopic confirmation.

-IETA-based features were evaluated across the menstrual, proliferative, periovulatory, and secretory phases.

-A serial subgroup of 50 women examined in ≥ 3 phases (171 examinations) was additionally analyzed for phase-related changes in sonographic features.

Results

Phase-Specific Diagnostic Features

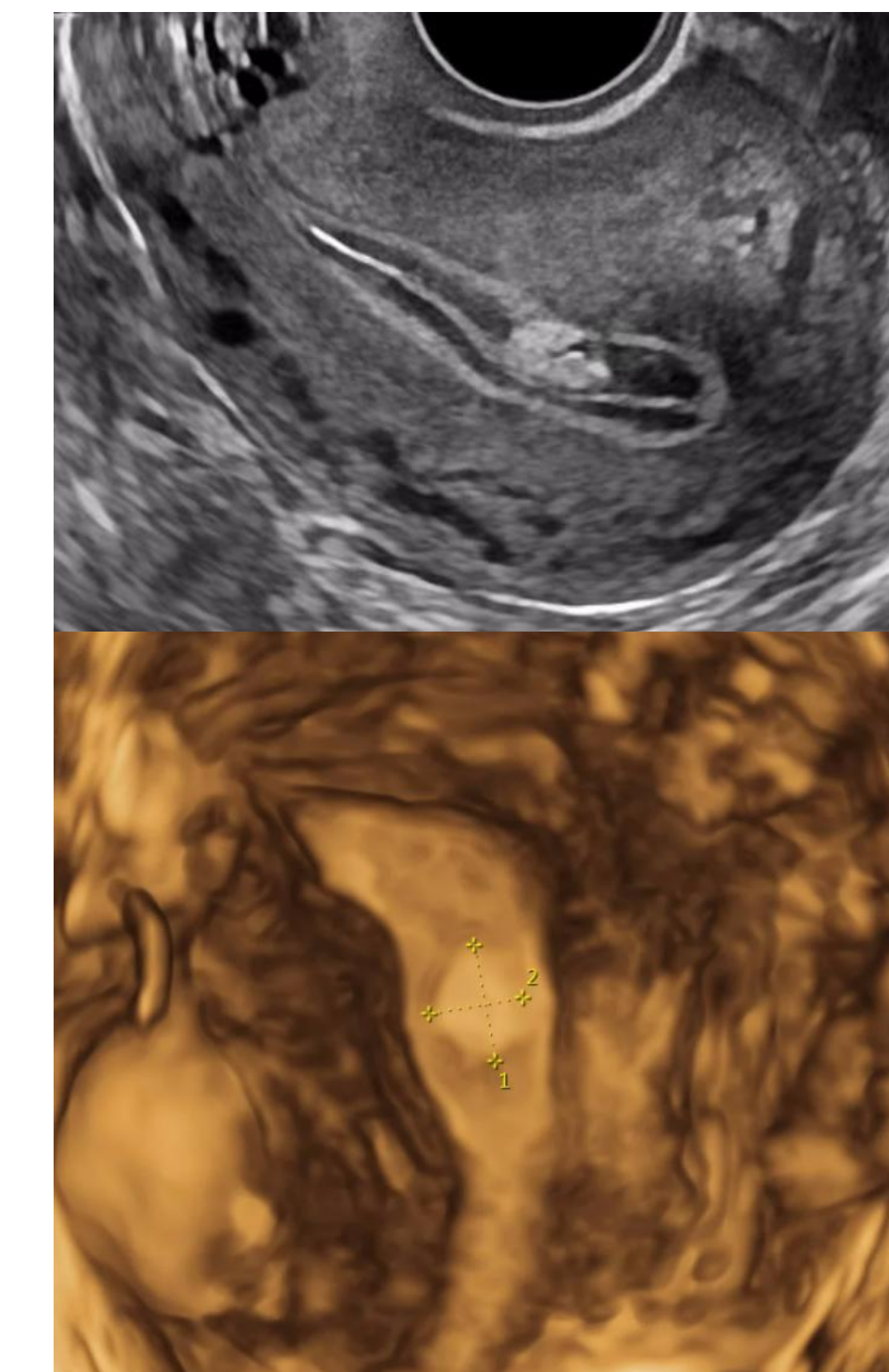
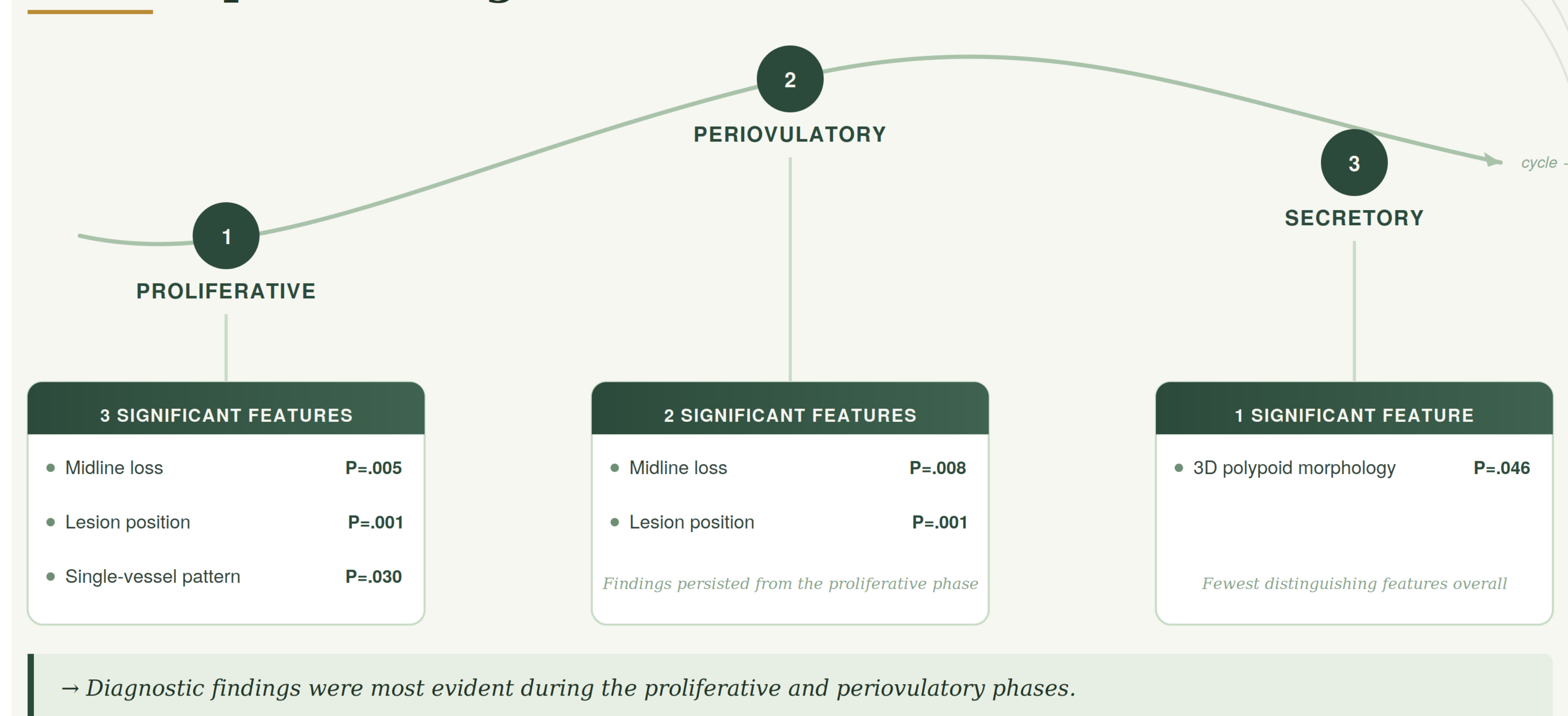


Figure 1. Representative 2D and 3D TVS images showing an echogenic polypoid mass with midline deviation and a polypoid morphology, respectively.

Serial Changes Across Phases

Significant phase-related variation was observed in the following IETA features:



→ IETA features were dynamic rather than fixed across the menstrual cycle.

Discussion

-The diagnostic value of IETA features varied according to menstrual phase, with the proliferative and periovulatory phases providing the greatest discrimination.

-Significant within-patient variation suggests that a single examination may not fully represent the sonographic appearance of an endometrial polyp.

-These findings support phase-aware endometrial assessment, particularly when initial TVUS findings are equivocal.

Conclusion

-IETA-based features of endometrial polyps vary across the menstrual cycle and are most discriminative during the proliferative and periovulatory phases.

-Serial phase-based TVUS may improve polyp detection and diagnostic confidence in infertility practice.

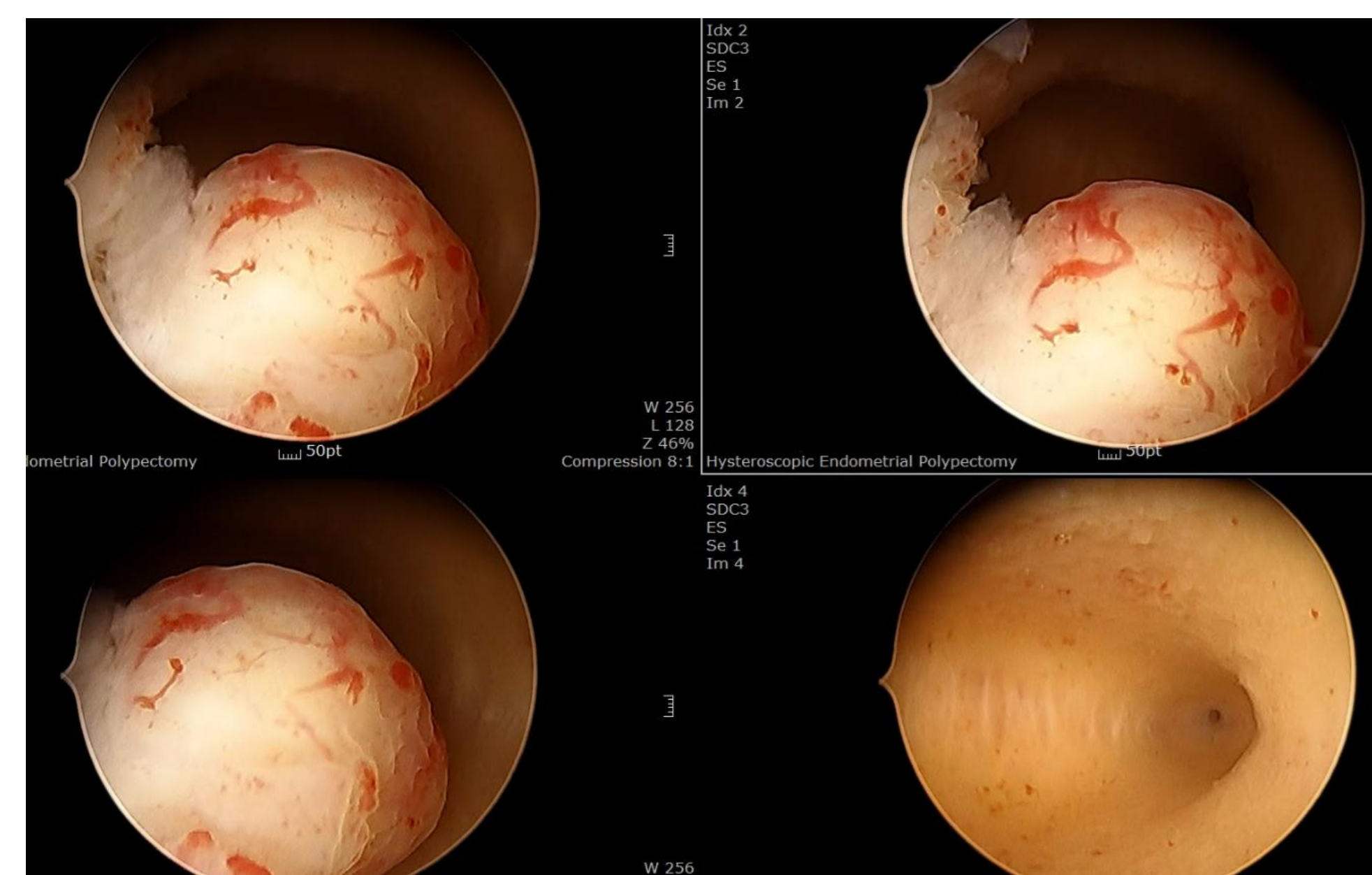


Figure 2. Hysteroscopy demonstrates a polypoid lesion. Histopathology confirmed an endometrial polyp.