

“Necrotic Pseudopolyps”: A Possible Cause of Abnormal Uterine Bleeding in the Setting of Progestin Therapy

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Background

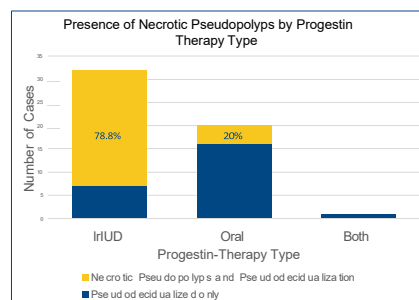
- Levonorgestrel-releasing intrauterine devices (IrlUDs) and oral progestin therapy are utilized for contraception and the management of conditions such as abnormal uterine bleeding (AUB) and endometriosis.
- Prolonged use of IrlUDs or oral progestins can lead to various histopathological changes in the endometrium, including glandular atrophy, stromal pseudodecidualization, stromal inflammatory response, accumulation of hemosiderin pigment, and necrosis.
- The possibility that these changes, particularly the presence of necrotic endometrial material, contribute to so-called “breakthrough” AUB in a subset of patients has not been explored.

Methods

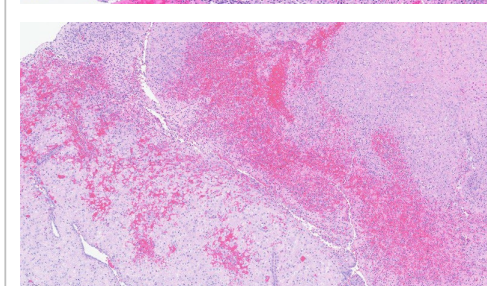
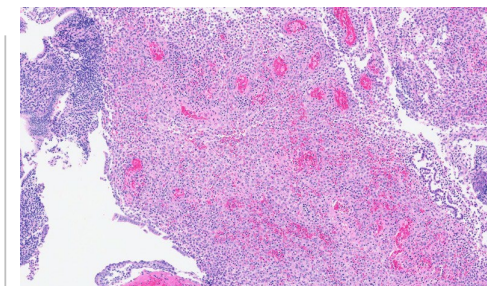
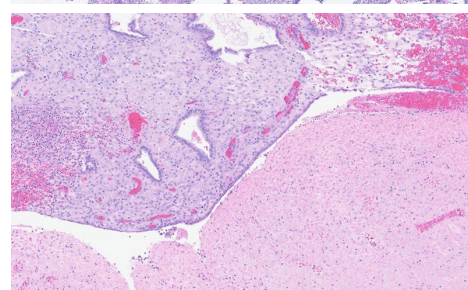
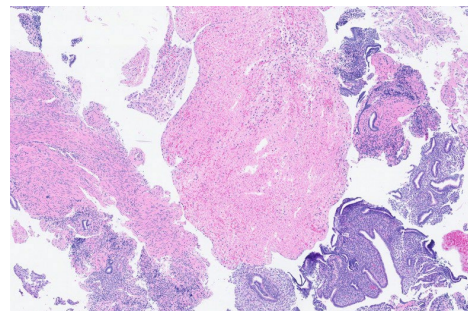
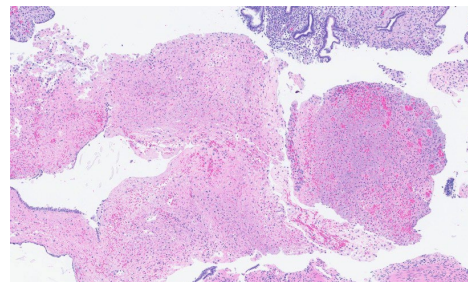
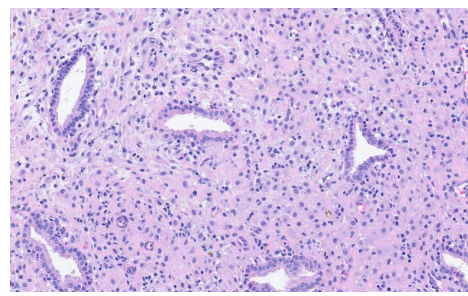
- Cases were identified after searching the archives of UC Davis Medical Center for endometrial biopsies with the terms “pseudodecidual,” “pseudodecidualization,” “altered endometrium,” “necrotic pseudopolyp,” or “progestin effect” in the diagnostic line
- Cases with a history of endometrial intraepithelial neoplasia (EIN), endometrioid adenocarcinoma, focal glandular crowding, or overt endometrial polyps were excluded
- Hematoxylin and eosin (H&E) sections were re-reviewed by a gynecologic pathologist (JW)
- Patient demographic and clinical information was extracted from the electronic medical record

Results

- 52 cases from 52 unique patients were identified (age range: 29-76 years, mean=46.7 years).
- All patients were using progestin-therapy prior to biopsy: IrlUD (n=32), oral progestin (n=20), both IrlUD and oral progestin (n=1)
- Average duration of IrlUD use prior to biopsy was 3565 days (range 34 to 43,341 days)
- Average duration of oral progestin use was 216 days (range: 13-1936 days)
- Biopsy reasons included AUB (n=41), PMB (n=6), and others (e.g., thickened endometrial stripe) (n=5)
- All biopsies demonstrated pseudodecidualization consistent with progestin therapy (Fig. 1)
- 38 biopsies demonstrated the presence of polypoid necrotic pseudodecidualized tissue, referred to herein as “necrotic pseudopolyps” (NP) (Fig. 2, 3, 4)



- Among cases with NP, duration of IrlUD or oral progestin use was not statistically different from patients without
- Recent hemorrhage/extravasated red blood cells and inflammation were common features in cases with NP, especially in areas of impending necrosis (Fig. 4, 5)
- Post-biopsy, 41 patients were asymptomatic, 2 had ongoing symptoms, and 10 were lost to follow up
 - In cases with NP and adequate follow up, 30 of 32 patients’ symptoms (AUB or PMB) resolved post-biopsy



Conclusion

- IrlUD or oral progestin can lead to significant histopathological changes in the endometrium, including abundant necrosis with zones of acute hemorrhage and inflammatory cell influx that mimics infarcted endometrial polyps
- We thus propose the term “necrotic pseudopolyp” for this common, benign finding
- Many patients with NP have resolution of breakthrough bleeding post-endometrial sampling, suggesting that the physical removal of this tissue may be therapeutic for AUB/PMB occurring in patients on IrlUD in particular