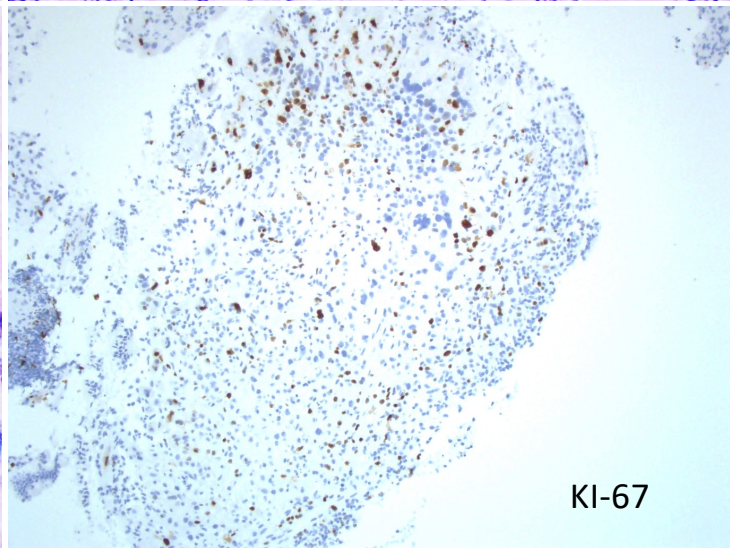
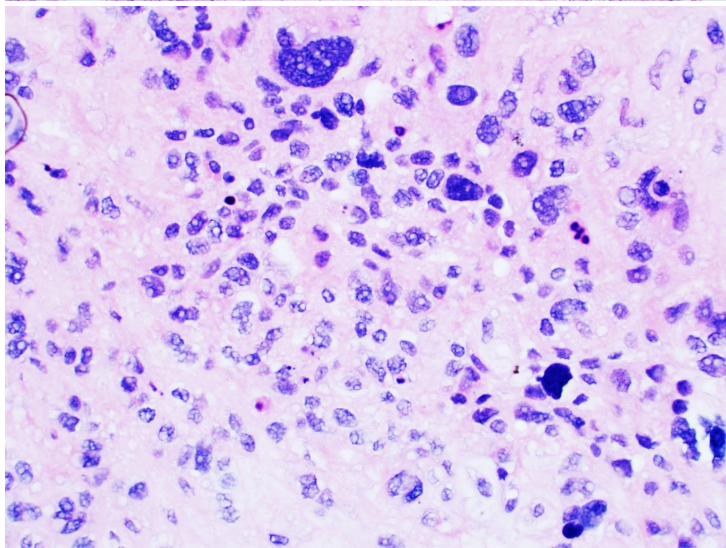
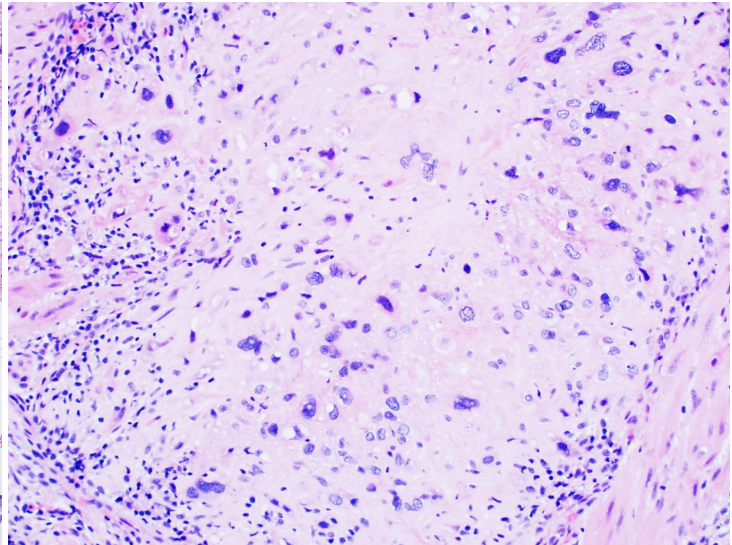
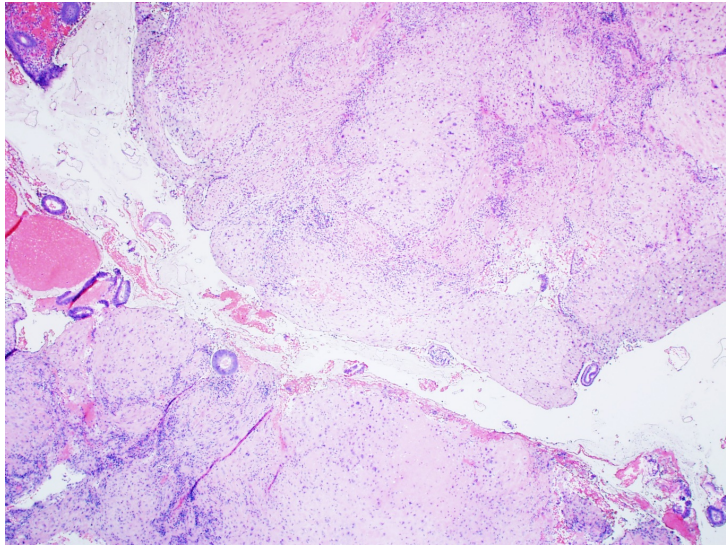




32-year-old woman presenting with uterine bleeding. Endometrial curettage was performed.

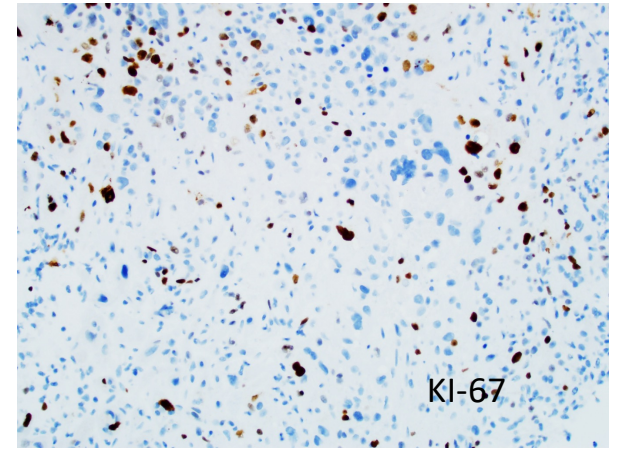
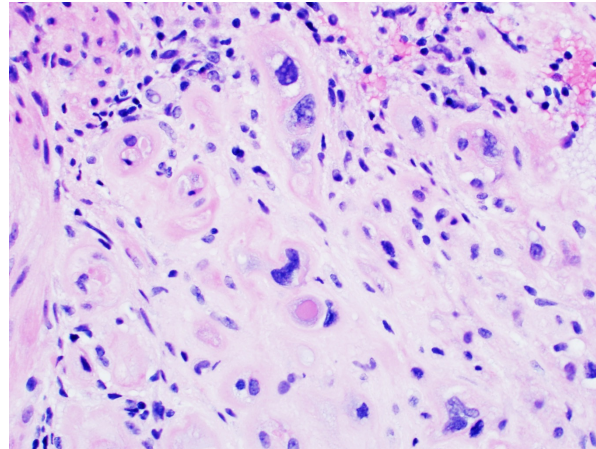
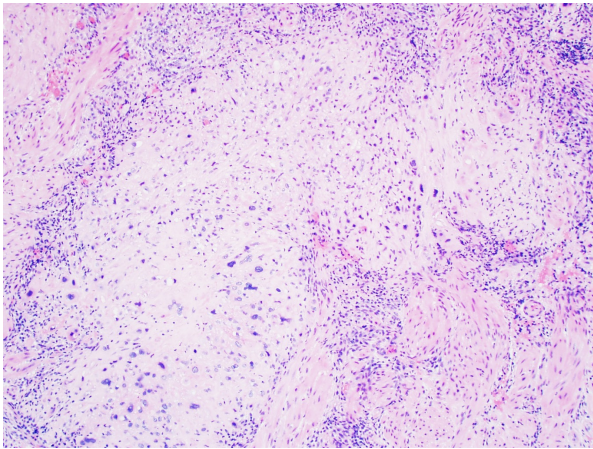


KI-67

## Differential diagnoses

- A. Placental site nodule (PSN)
- B. Atypical placental site nodule (APSN)
- C. Epithelioid trophoblastic tumor (ETT)
- D. Implantation site reaction.

## Additional Histological Images



Placental site nodule (PSN) consists of nodules or plaques, usually less than 5 mm in size, of chorionic-type intermediate trophoblast arranged in single cells or cords and embedded in an abundant hyalinized matrix. Central paucicellular zone is generally present. Focal cytological atypia, enlarged hyperchromatic nuclei with smudgy chromatin, and absent or low mitotic activity is typically seen. Ki-67 proliferative index is less than 5%.

Atypical PSN (APSN) has morphologic features intermediate between placental site nodule (PSN) and epithelioid trophoblastic tumor (ETT). Histologic features include larger size of the nodule (5 to 10 mm), increased cellularity, marked nuclear atypia, presence of mitotic figures, and Ki-67 proliferation index between 5% and 10%<sup>@@</sup>. While definitive diagnostic criteria have not been established, at least two of the above histological parameters are needed to consider the diagnosis. Patients with APSN should undergo imaging studies to rule out underlying mass lesion and require clinical follow-up, including serum hCG measurement.

<sup>@@</sup>: Counting Ki-67 of the proliferating trophoblastic cells should carefully exclude background inflammatory cells (cytokeratin and Ki-67 double-stain may be helpful).

Epithelioid trophoblastic tumor (ETT) is tumor of chorionic type intermediate trophoblasts in women of 15 to 48 years of age. ETT forms discrete, invasive nodules or cystic hemorrhagic masses with frequent ulceration and fistula formation. Histologically, the tumor consists of nodular, expansile growth of relatively uniform, medium-sized trophoblastic cells arranged in nests, cords, or large sheets. Well-circumscribed tumor border is typical. Moderate nuclear atypia is usually present and mitotic counts are variable ranging from 0 to 9/10 HPFs. Extensive or “geographic” necrosis with associated calcification is characteristic. When involving the cervix, tumor cells may colonize mucosal epithelium simulating high-grade squamous intraepithelial lesion. Major differential diagnoses include squamous cell carcinoma, APSN and PSTT.

Implantation site reaction including its exaggerated form is associated with a concurrent gestation or molar pregnancy. The histologic features include absence of destructive mass lesion, presence of chorionic villi, and mononuclear trophoblastic cells admixed with evenly distributed multinucleated forms. Mitotic activity is absent. A low level of Ki-67 labeling index (<2%) is typically observed. However, when associated with molar gestation, greater cytological atypia and enhanced Ki-67 labeling index between 5 to 10% can be seen.



**Final Diagnosis: Atypical Placental Site Nodule (APSN)**