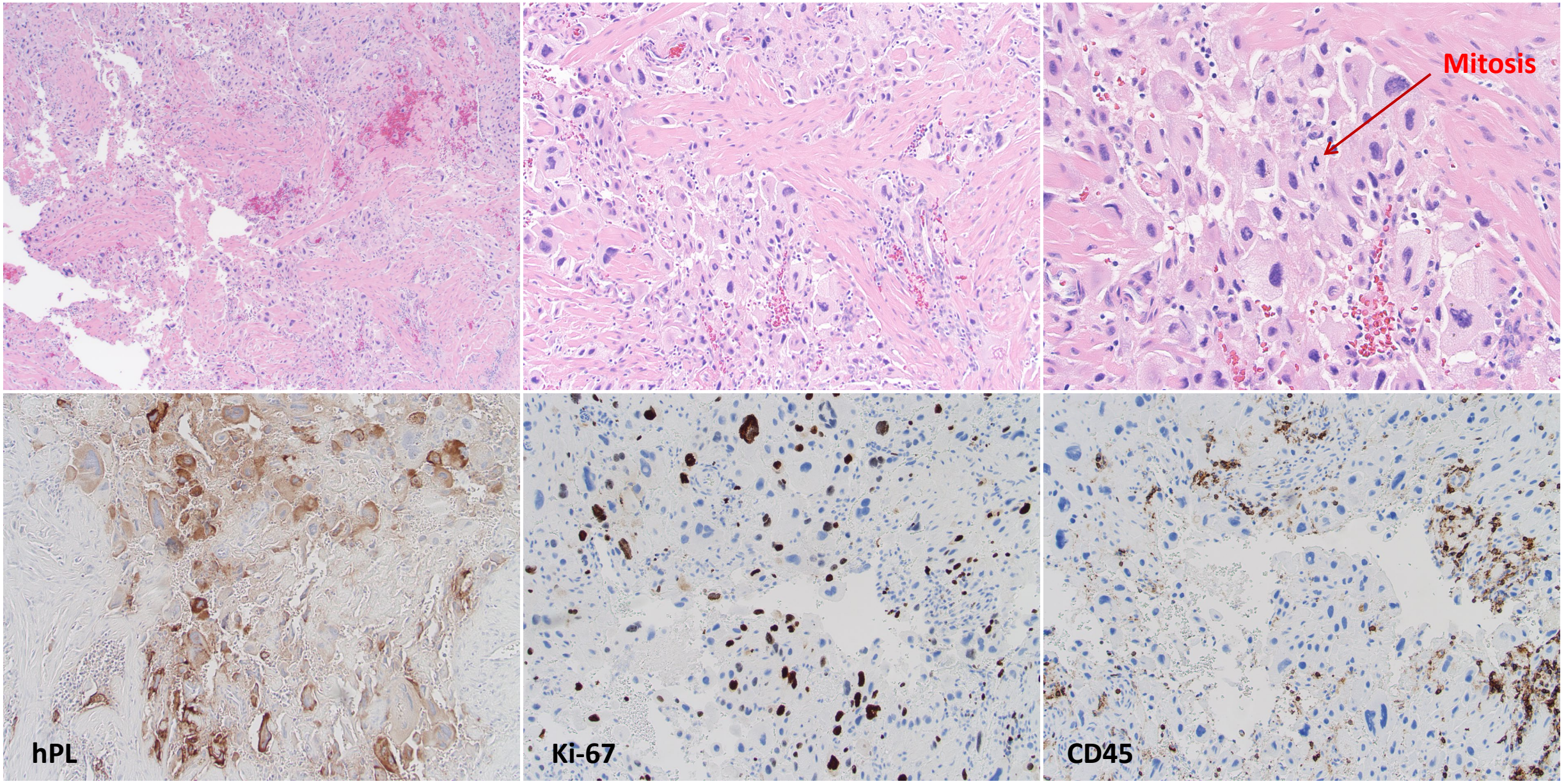
Where Knowledge is Created and Shared
Yale Pathology

Case Presentation

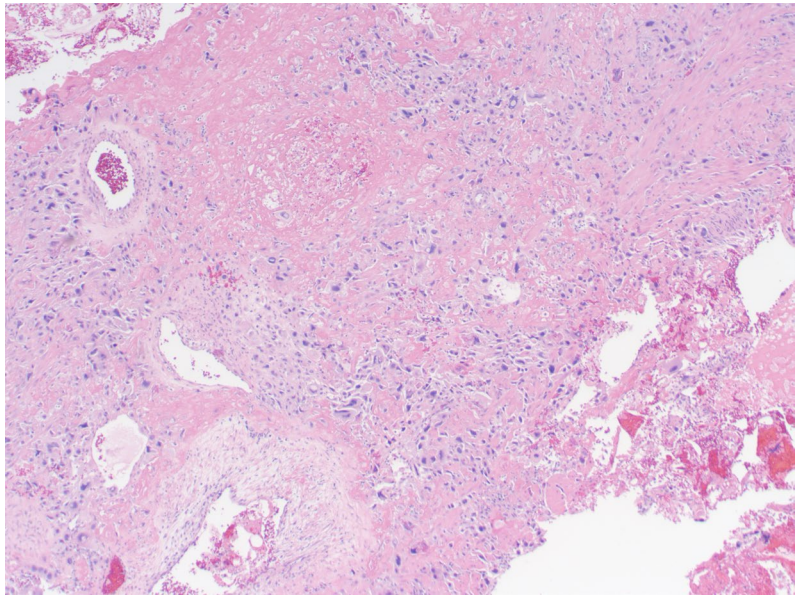
A 29-year-old woman presented with a presumed miscarriage 9 months after a term delivery despite contraceptive use. Serum hCG increased from 320 to 386 mIU/mL over 3 weeks, with no evidence of intrauterine pregnancy. She received 2 weeks of methotrexate therapy followed by dilation and curettage.

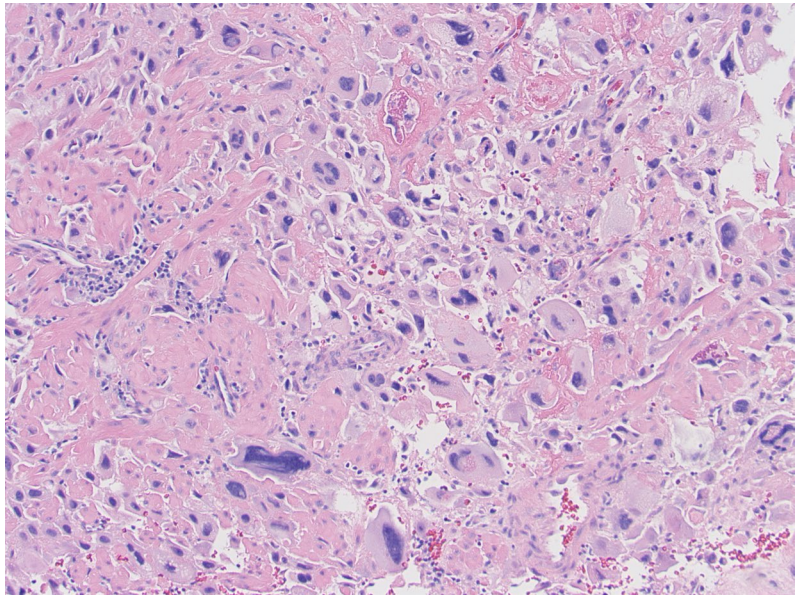

Mitosis
hPL
Ki-67
CD45

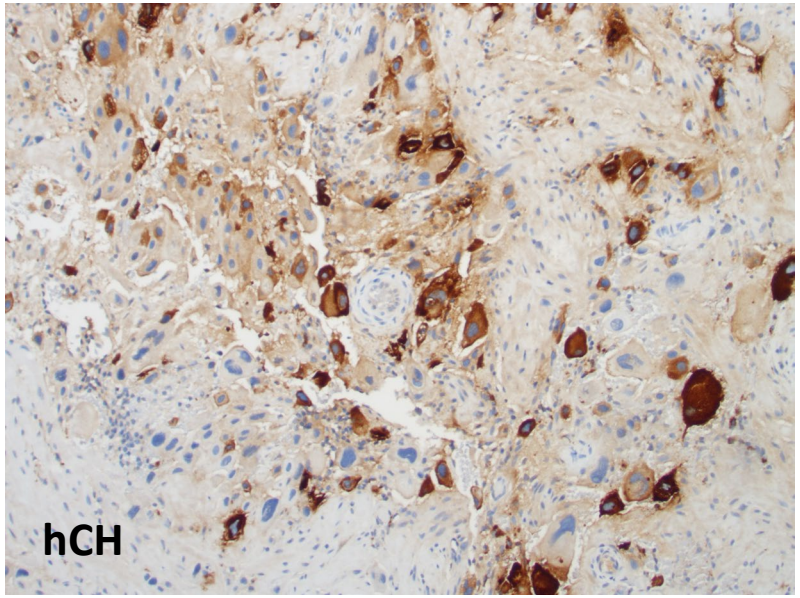
Differential diagnoses

A. Gestational choriocarcinoma
B. Epithelioid trophoblastic tumor (ETT)
C. Placental site trophoblastic tumor (PSTT)
D. Exaggerated implantation site reaction (EPS)

Additional Histological Images







In this case, there are multiple fragments of endomyometrium diffusely infiltrated by sheets of markedly atypical implantation site intermediate trophoblasts that are intimately admixed with pre-existing smooth muscle fibers. There is also significant trophoblastic cell necrosis although it may be related to the initial methotrexate treatment. The letional cells are diffusely positivity of hPL. Ki-67 and CD45 immunostains demonstrate a significant proliferative index of at least 30% among the trophoblasts, after excluding positive lymphocytes. It is noted that the patient had a full-term delivery 9 months ago. There is no clinical and histologic evidence of concurrent pregnancy (i.e. no chorionic villi). The clinical presentation of “missed abortion” in the patient who were using contraception, together with a modest elevation of serum hCG ranging from 100 to 386 mIU/mL, is a typical clinical presentation of PSTT. The patient subsequently underwent hysterectomy and a 2.5 cm PSTT involving the myometrium was found.

Final Diagnosis: Placental Site Trophoblastic Tumor (PSTT)

Placental site trophoblastic tumor (PSTT) typically occurs in women of reproductive age, most often following a full-term pregnancy (about two-thirds of cases), with a median interval of 12–18 months. The most common presenting symptom is abnormal vaginal bleeding. Serum hCG levels are usually mildly to moderately elevated (generally <1,000 mIU/mL) and detectable in approximately 80% of patients. Histologic diagnosis in curettage specimens can be challenging due to overlap with exaggerated implantation site (EPS). However, the presence of mitotic activity and a Ki-67 proliferation index of 10–30% supports a diagnosis of PSTT and argues against EPS.