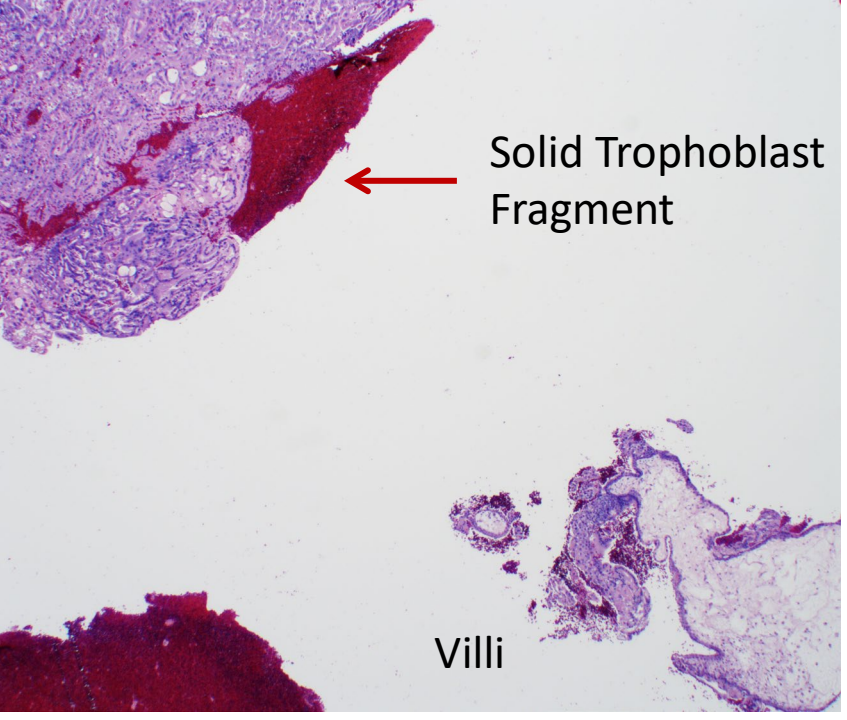
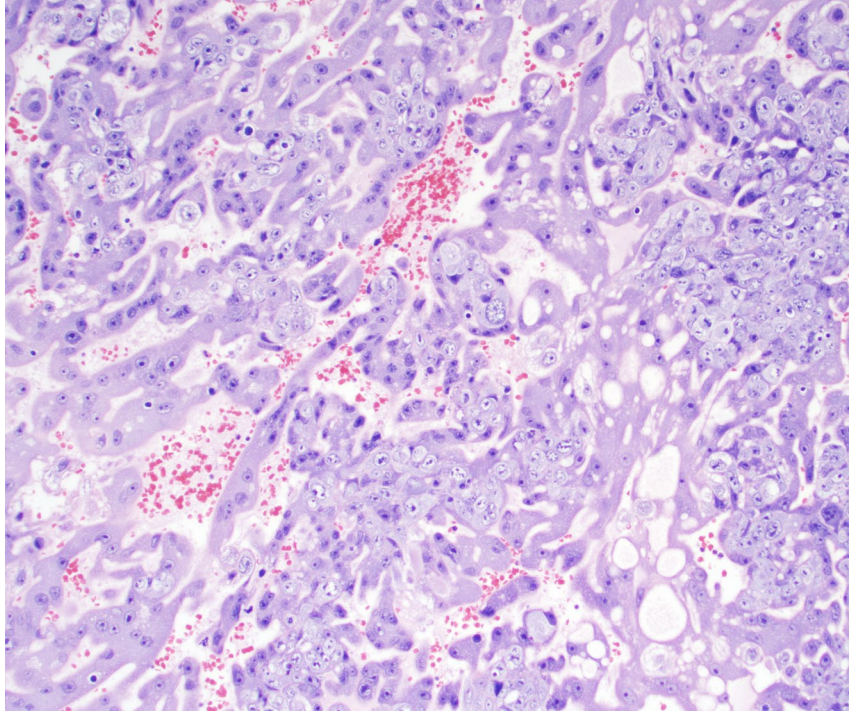
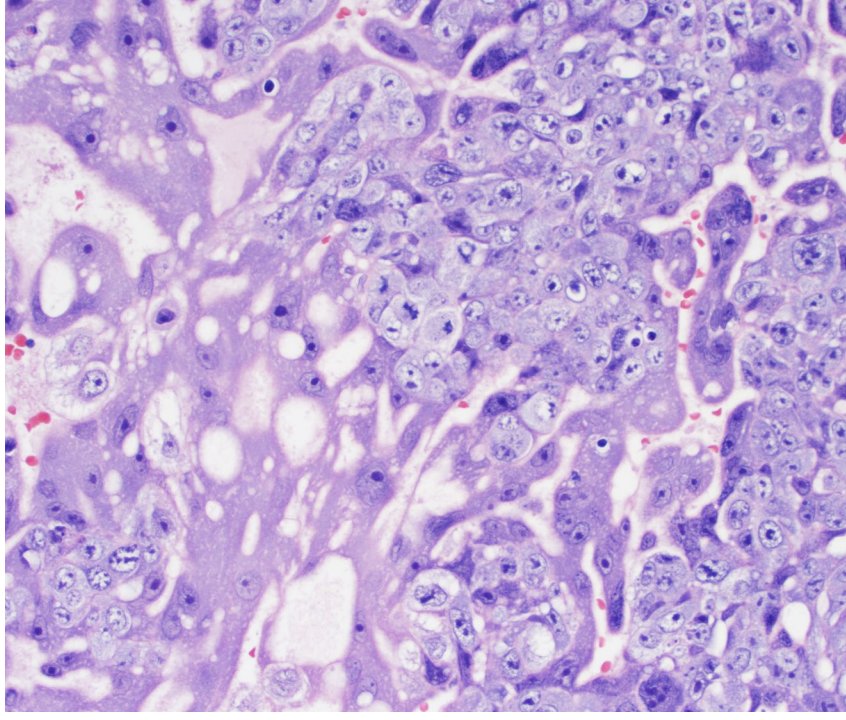
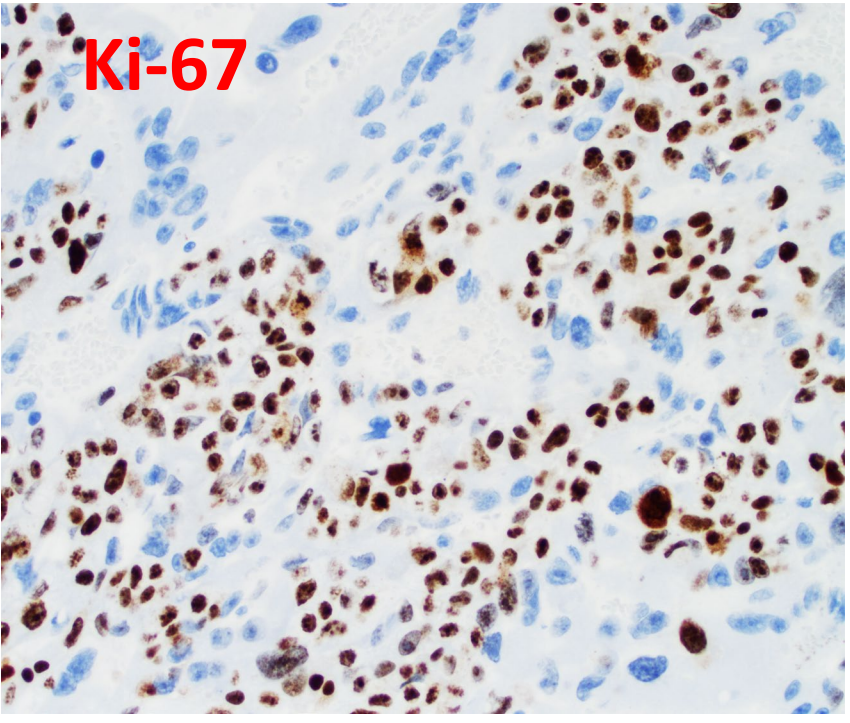
Where Knowledge is Created and Shared
Yale Pathology

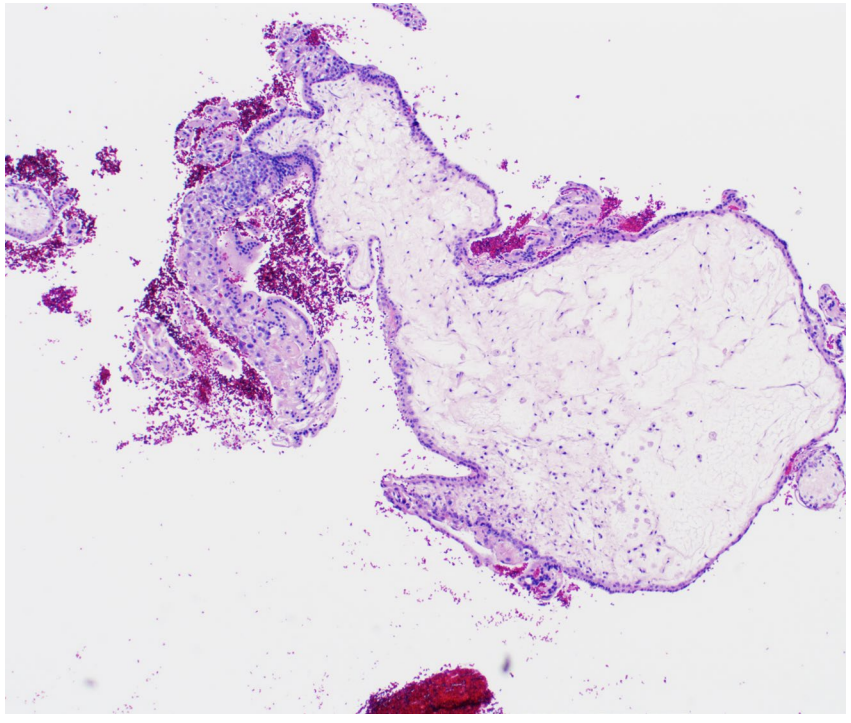
35-year-old woman presenting with missed abortion. D/C showed fragments of biphasic trophoblastic proliferation with the presence of hydropic chorionic villi. The chorionic villi inherit a balanced biparental STR genotype, which is also shared by the atypical trophoblast.

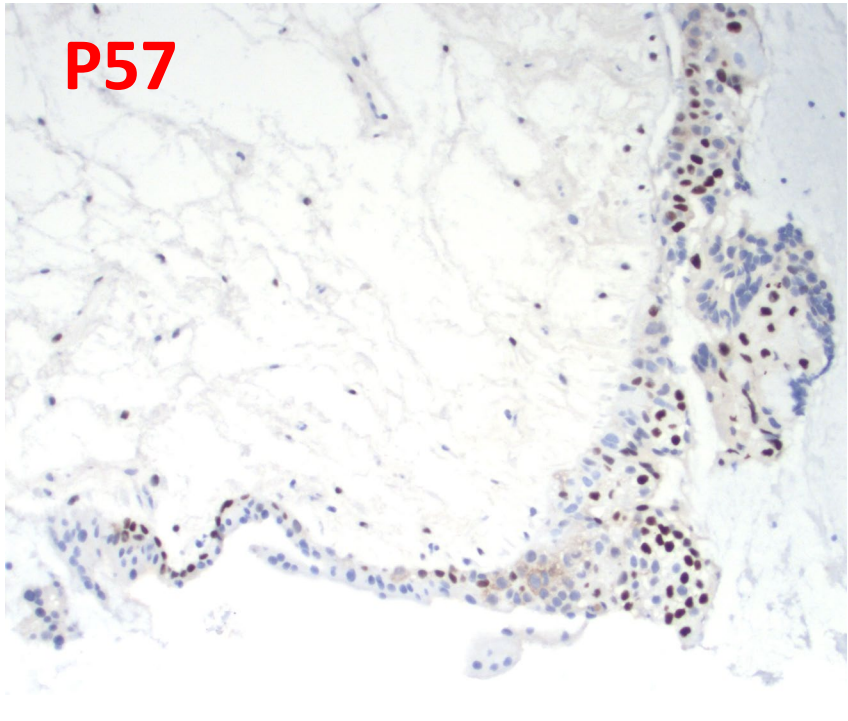

Solid Trophoblast
Fragment
Villi






Ki-67

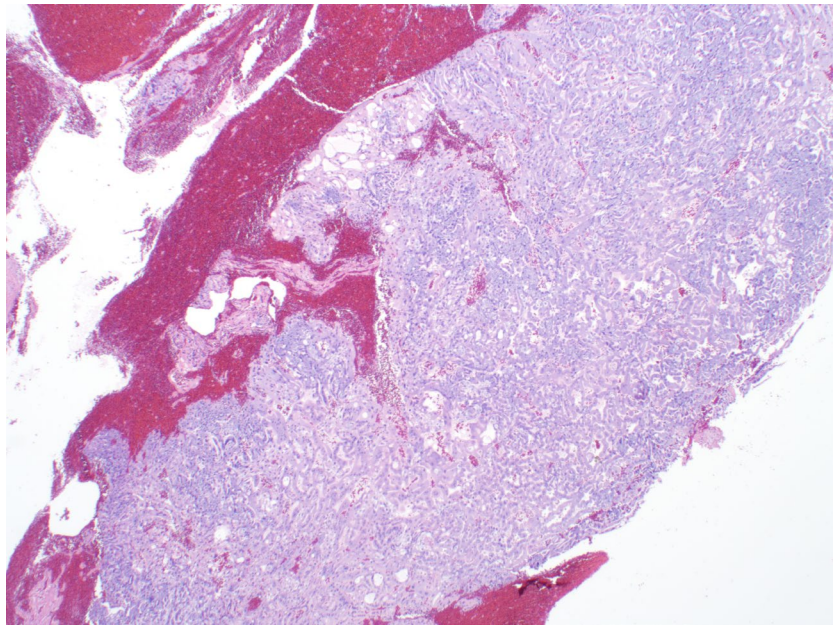


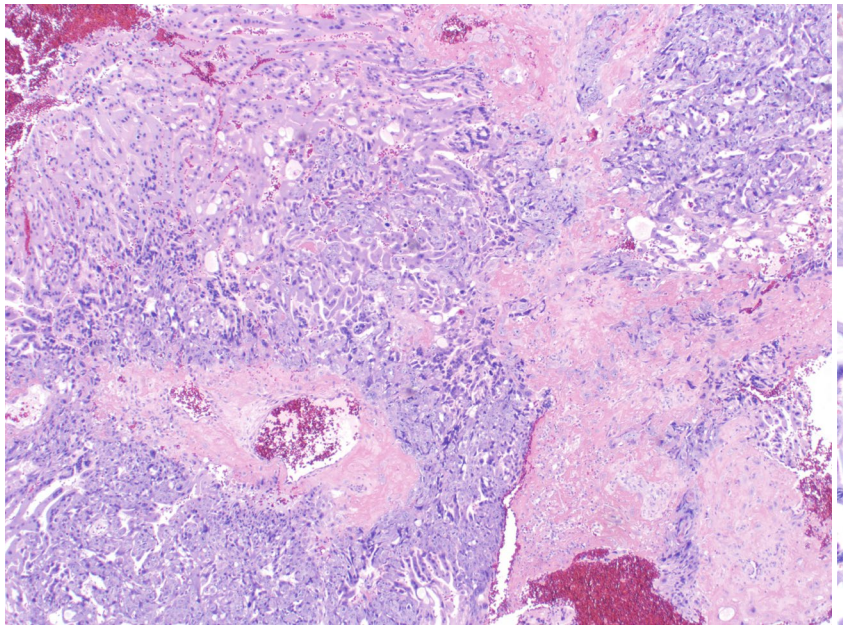

P57

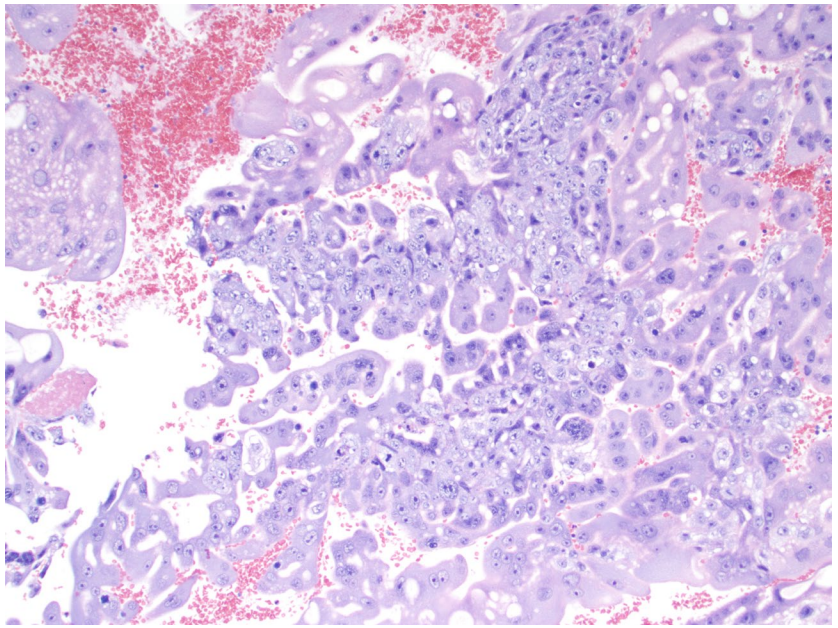
Diagnostic Options

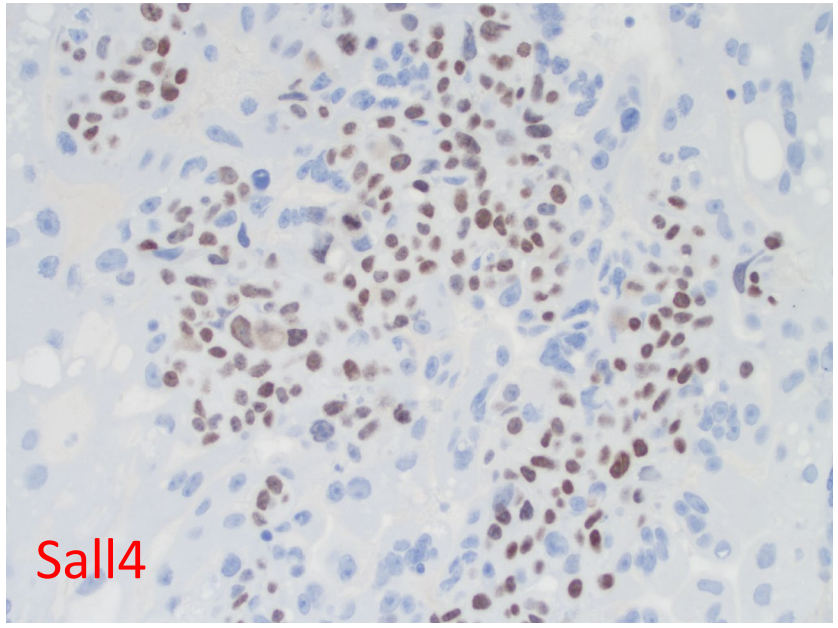
A: Hydropic abortion (HA)
B: Hydropic abortion with Trophoblastic Hyperplasia
C: Choriocarcinoma coexisting with HA
D: Choriocarcinoma arising from HA

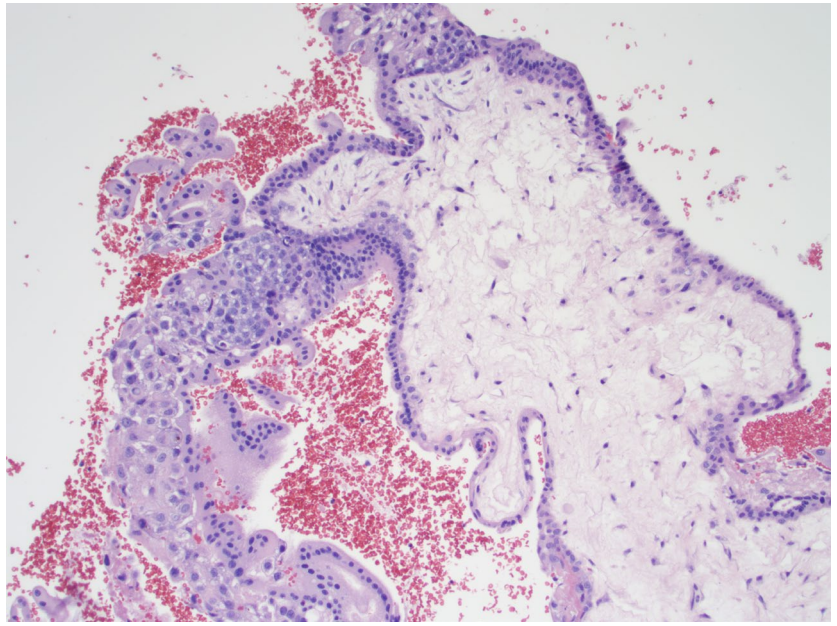
Additional Histological, Immunohistochemical and STR Genotyping Images

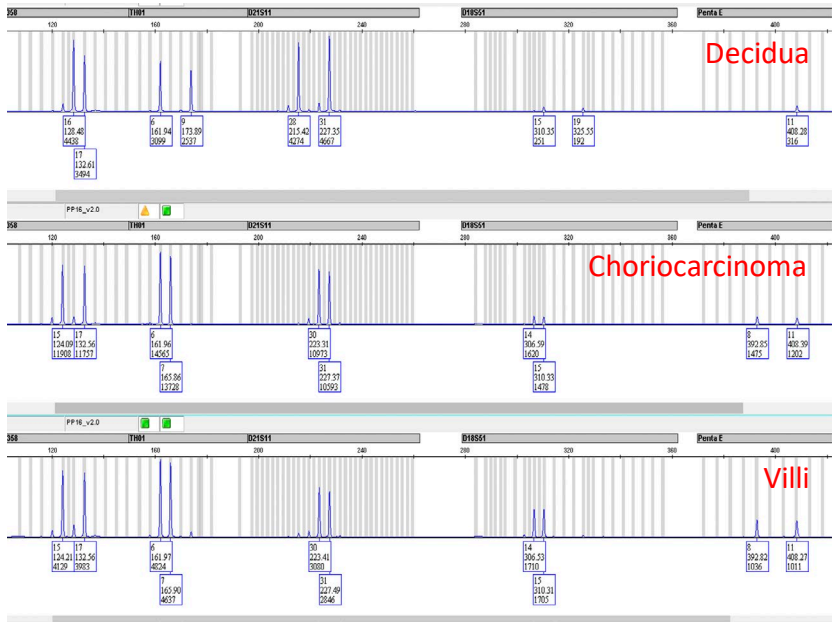












The patient had a serum hCG level of >130,000 mIU/ml at the time of uterine curettage. There are multiple fragments of abnormal trophoblastic proliferation with characteristic biphasic growth of highly atypical trophoblastic cells. A high Ki-67 labeling index (>95%) is observed and the mononuclear trophoblastic cells are positive for Sall4 immunostain. Scattered hydropic chorionic villi show a normal p57 expression in the cytotrophoblast and villous stromal cells. Comparative STR genotyping demonstrates an identical diploid biparental profile shared by the atypical trophoblast and the hydropic chorionic villi.

Final Diagnosis: Gestational choriocarcinoma arising from a concurrent hydropic abortion

Over 25% of gestational choriocarcinomas develop after a non-molar missed abortion. It should be noted that in a patient with history of multiple gestations, a choriocarcinoma does not necessarily represent a tumor arising from a concurrent gestation. A comparative genotyping is important to establish a causal relationship between the tumor and its related index gestation, which is highly relevant for the WHO prognostic scoring and guiding an appropriate chemotherapy for the patient.