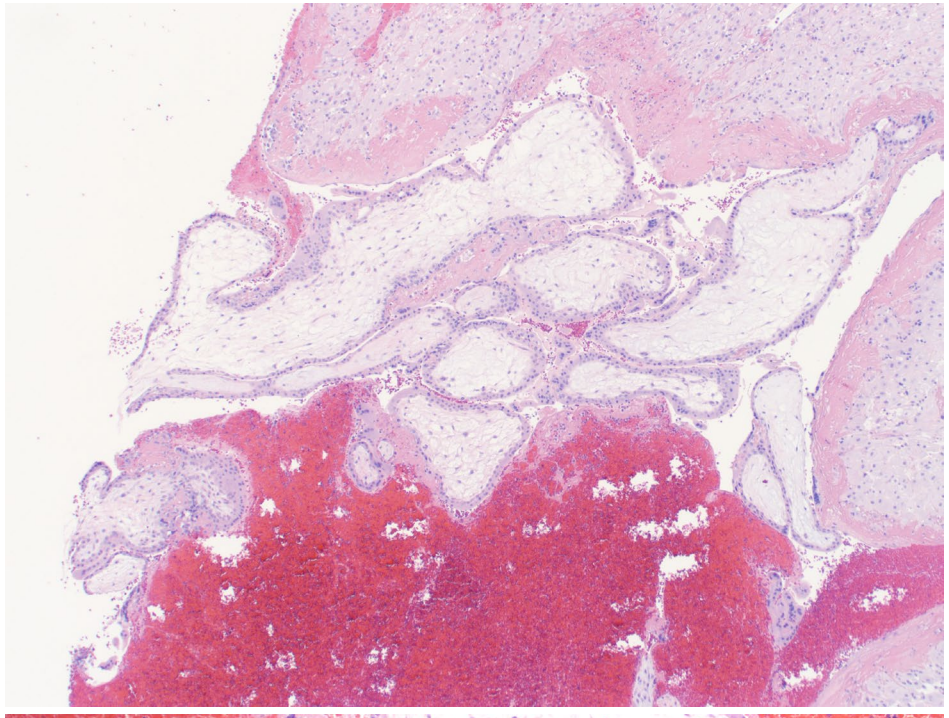
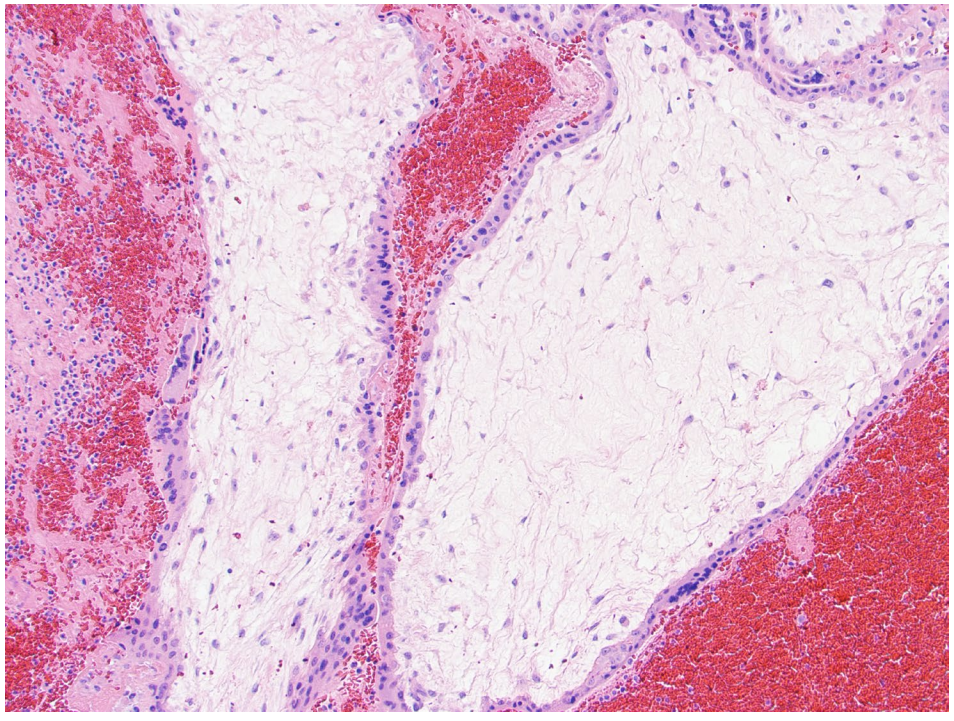
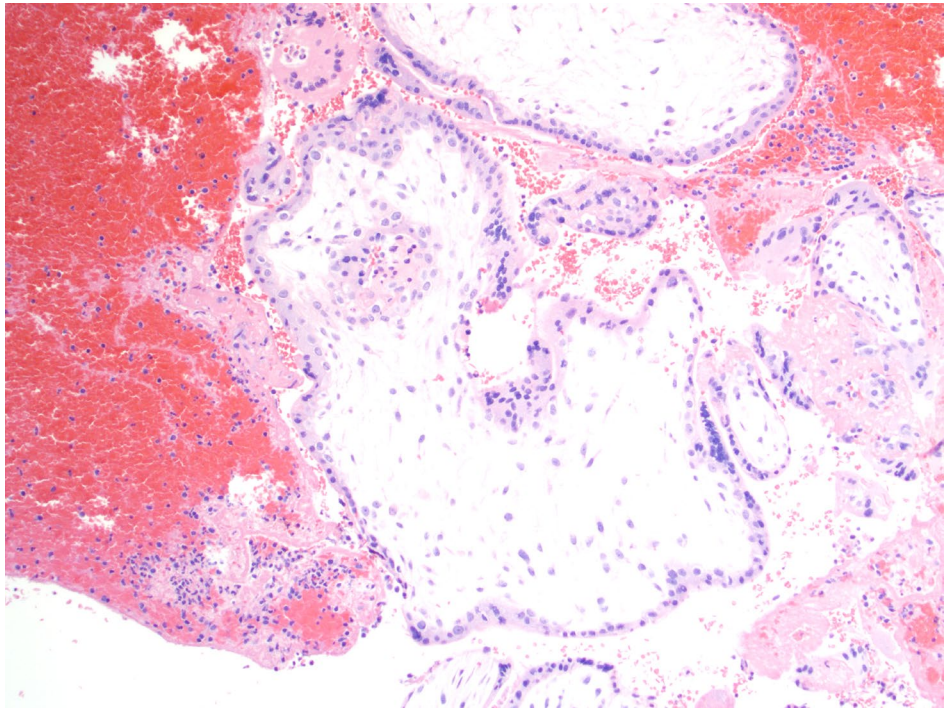
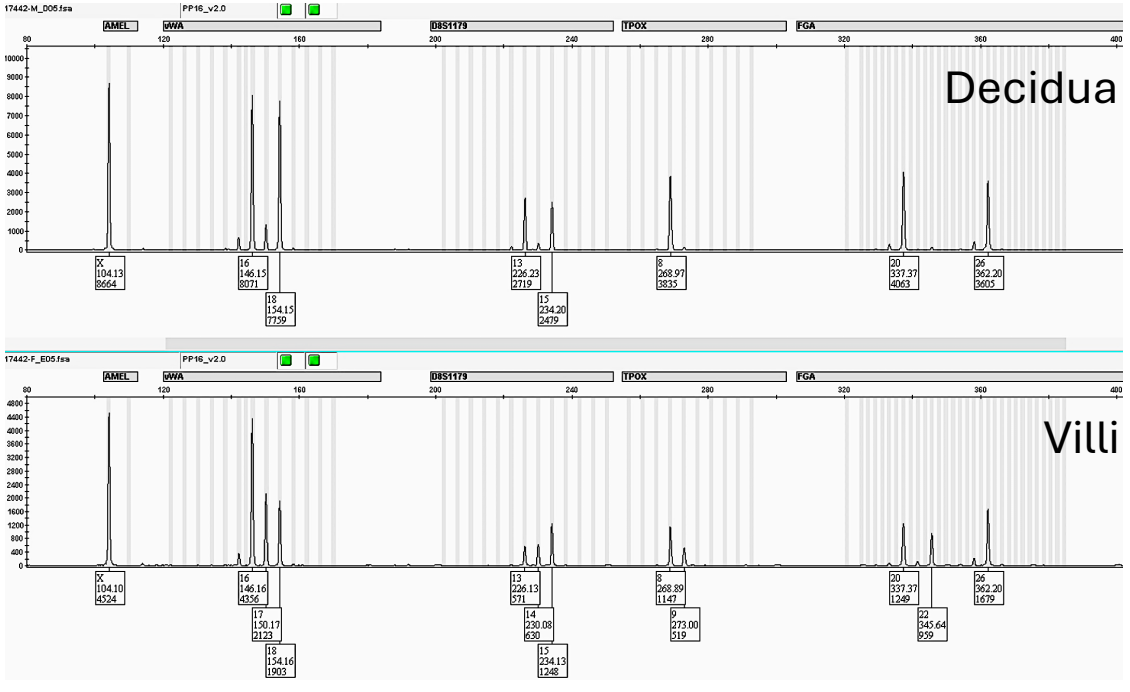
Where Knowledge is Created and Shared
Yale Pathology

37-year-old woman presenting with missed abortion. D/C was performed.





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Decidua
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PP16_v2.0
AMEL
vWA
D8S1179
TPOX
FGA
Villi

Diagnostic Options

A: Tetraploid PHM
B: Tetraploid Trigynic Abortus

Case Description: Histological features (enlarged chorionic villi with abnormal shapes and hydropic changes) are suggestive of a partial mole. STR genotyping demonstrates a tetraploid profile in the chorionic villi with three matching maternal allelic copies (M) and one allelic copy of the paternal allele (P).

Note 3 copies of matching maternal alleles (M) and one unique paternal allele (P) at each STR locus in the villi. The first locus is sex determination locus (Amel): both decidua and villi show only X allele

Tetraploidy may rarely occur in missed abortion and the clinical implication depends on its haploid genetic composition:

- Tetraploid partial mole contains a triandric-monogynic (3 paternal and 1 maternal) STR genetic profile.

- Non-molar tetraploid gestation has either a trigynic-monoandric (3 maternal and 1 paternal) genotype as illustrated in the current case or a digynic-diandric (2 maternal and 2 paternal) profile (see Y-GTD case of June 2024)

It is important to separate the two types of tetraploidy as non-molar tetraploid gestation has no risk of developing post-evacuation gestational trophoblastic neoplasia (GTN).

Final Diagnosis: Tetraploid (Trigynic-monoandric) Non-molar Gestation

Suggested reading: Rozenova KA, et al. Gestational trophoblastic disease: STR genotyping for precision diagnosis. Expert Review of Molecular Diagnostics. 2025;25(1-3):1-19.