Case Description:
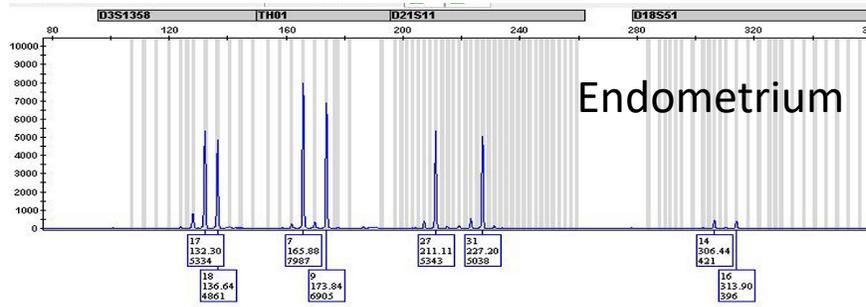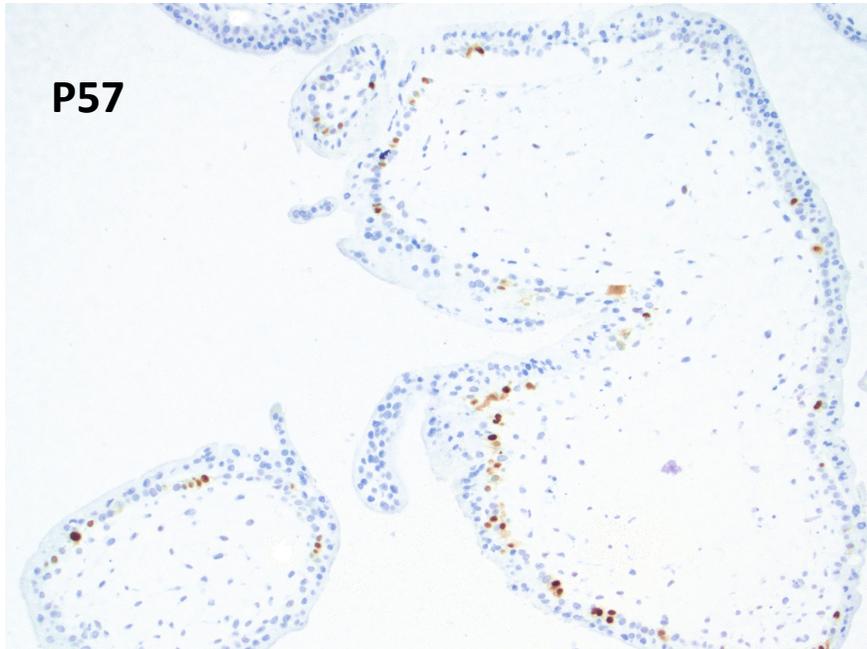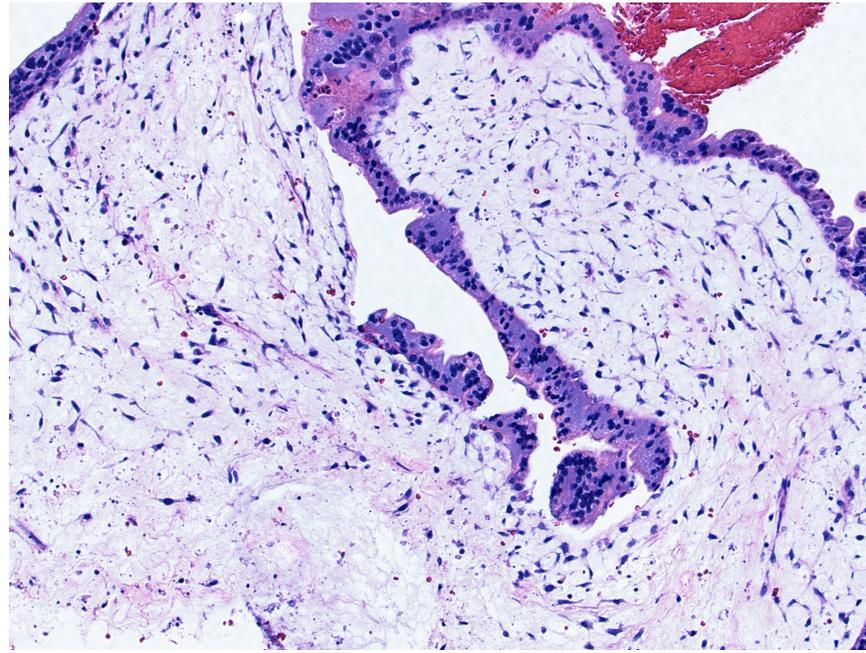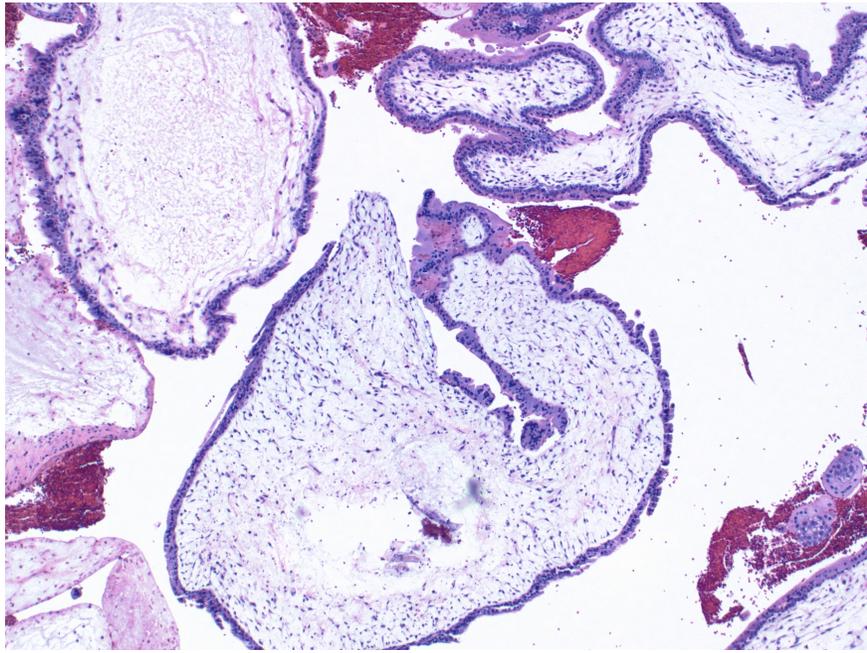
33-year-old woman presenting with missed abortion at 14 weeks.

Top panels: low-power (left) and high-power (right) microscopic view; Bottom panels: p57 immunostain (left) and STR genotyping (right).

Differential Diagnoses: A: Hydropic Abortion; B: Partial Mole; C: Complete Mole; D: Egg Donor Gestation.

P57

Endometrium

Villi

D3S1358	TH01	D21S11	D18S51

Endometrium
17	7	27	31	14
132.30	165.88	211.11	227.20	306.44
5334	7987	5343	5038	421
18	9			16
136.64	173.84			313.90
4861	6905			396

808-F_C06.fsa   PowerPlex_16_v2.0

D3S1358	TH01	D21S11	D18S51

Villi
16	7	29
128.14	165.77	219.10
2170	1813	624
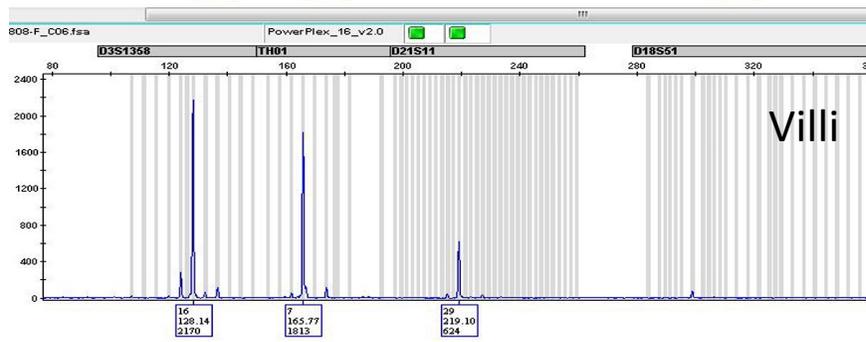
Diagnostic Summary:

The chorionic villi are polypoid to irregularly shaped. The villous stroma is hypercellular and myxoid with stellate fibroblasts and prominent karyorrhectic debris. Subtle abnormal, circumferential villous trophoblastic proliferation is present. The morphological features are highly suggestive of complete mole. Unusual nuclear staining of P57 in >10% of cytotrophoblast is present while there is a complete lack of staining in villous stromal cells, likely representing relaxation of paternal genomic imprinting at the *P57* locus. DNA genotyping demonstrates a homozygous/monospermic genetic profile at every STR locus (see below complete STR genotyping profile).
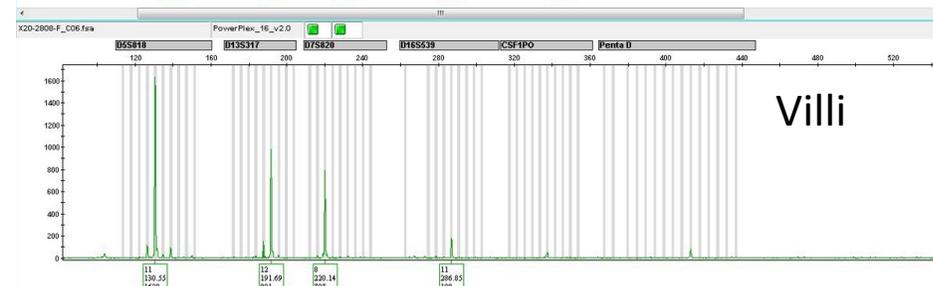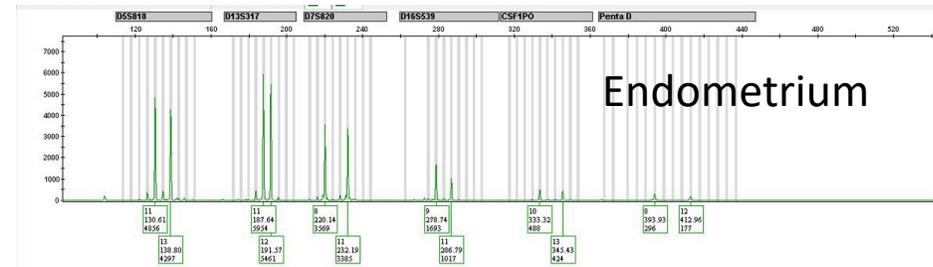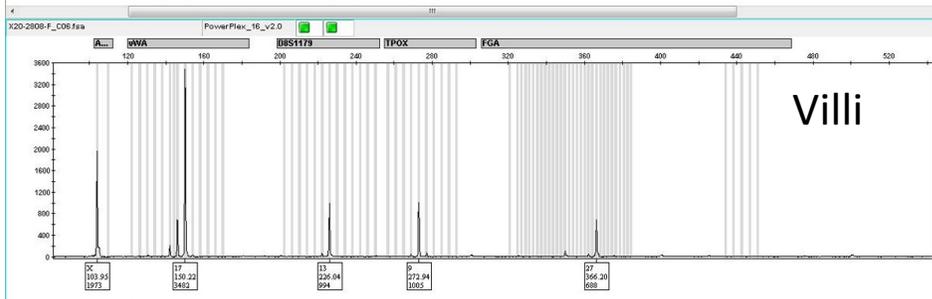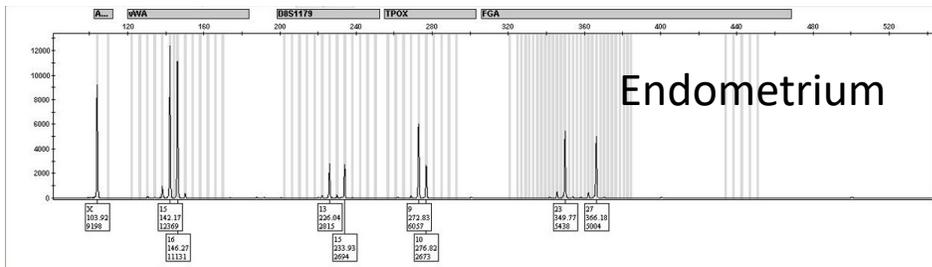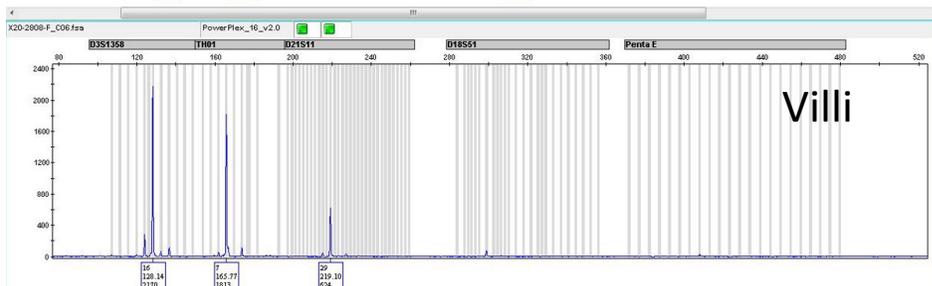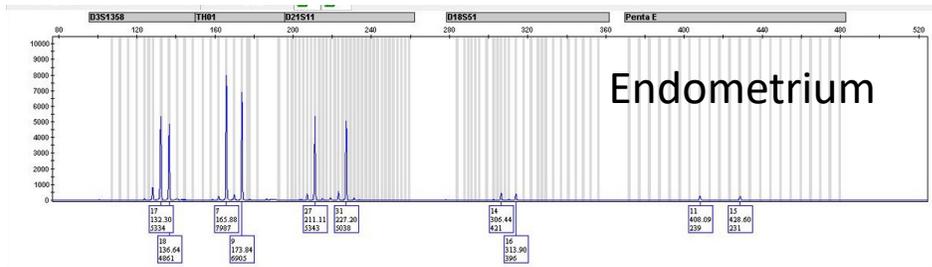
STR Genotyping Data: A homozygous allelic pattern is present at all STR loci, diagnostic of homozygous/monospermic complete mole.

Final Diagnosis:

Monospermic/homozygous complete mole

Differential Diagnoses:

Hydropic abortion: Polypoid to irregularly shaped chorionic villi and hypercellular, myxoid villous stroma with prominent karyorrhectic debris are not features of hydropic abortion which generally shows simple villous hydrops.

Partial mole: Histological features of chorionic villi, absence of p57 nuclear staining in villous stromal cells and a homozygous genetic profile by STR genotyping rule out this diagnosis.

Egg donor gestation: There is no history of egg donation or embryo transfer. The characteristic villous histology and the absence of a biallelic pattern by STR genotyping make such an interpretation unlikely.