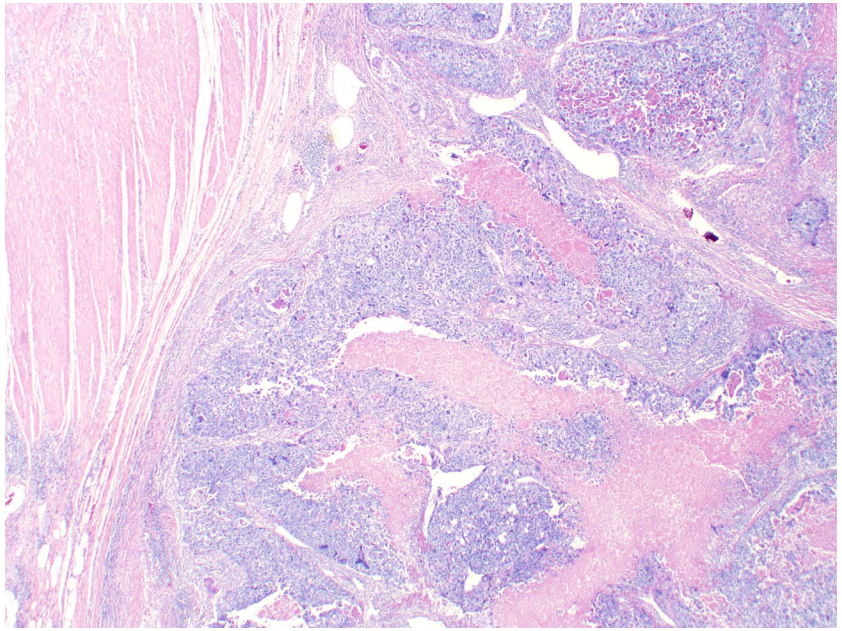
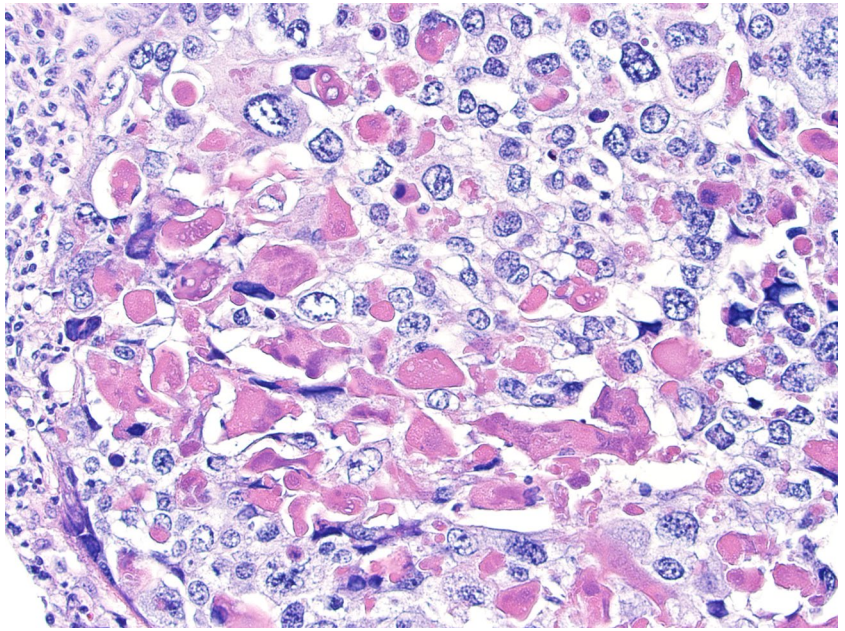
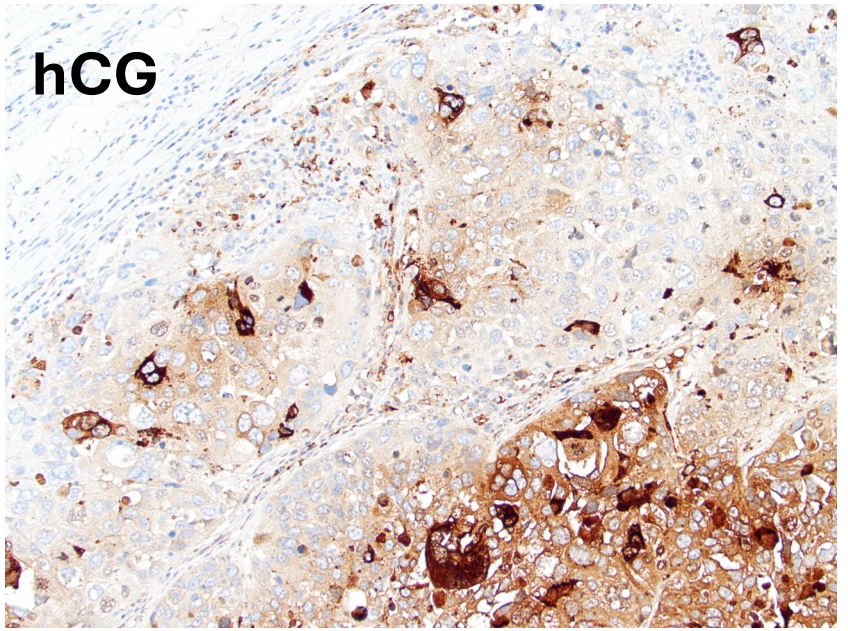
Where Knowledge is Created and Shared
Yale Pathology

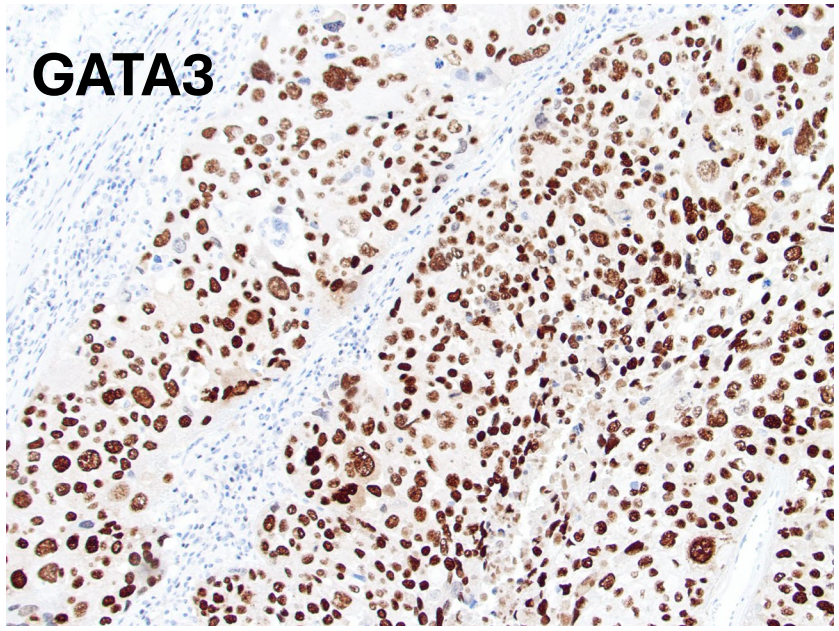
# Y-GTD Case of October 2024

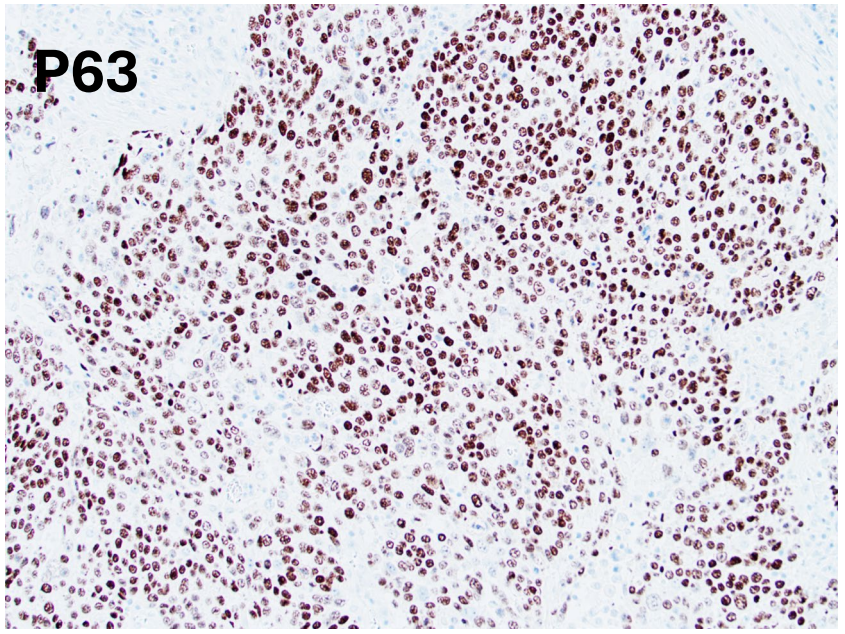
81-year-old woman underwent staging surgery for large mass lesions involving the large bowel and omentum. Uterus, ovaries and fallopian tubes were not involved.

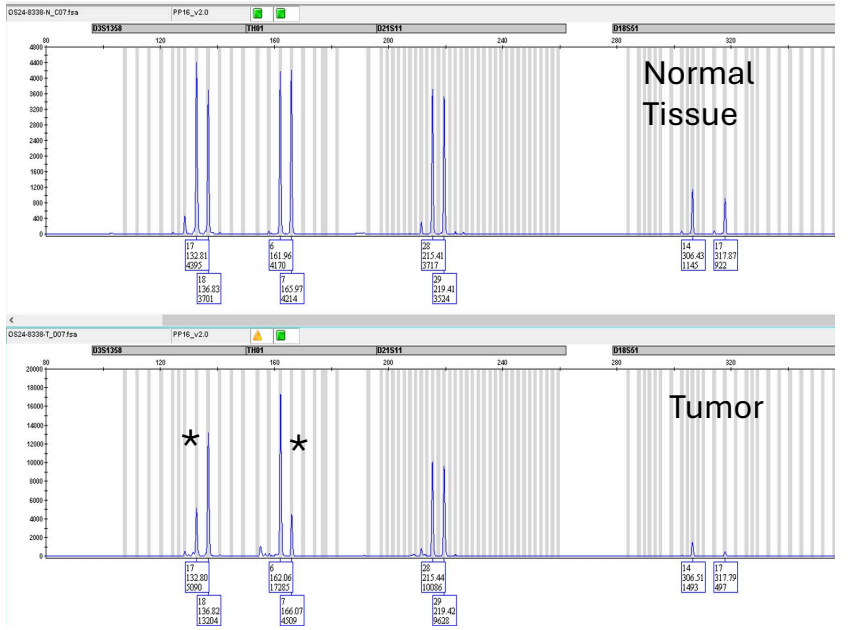





hCG

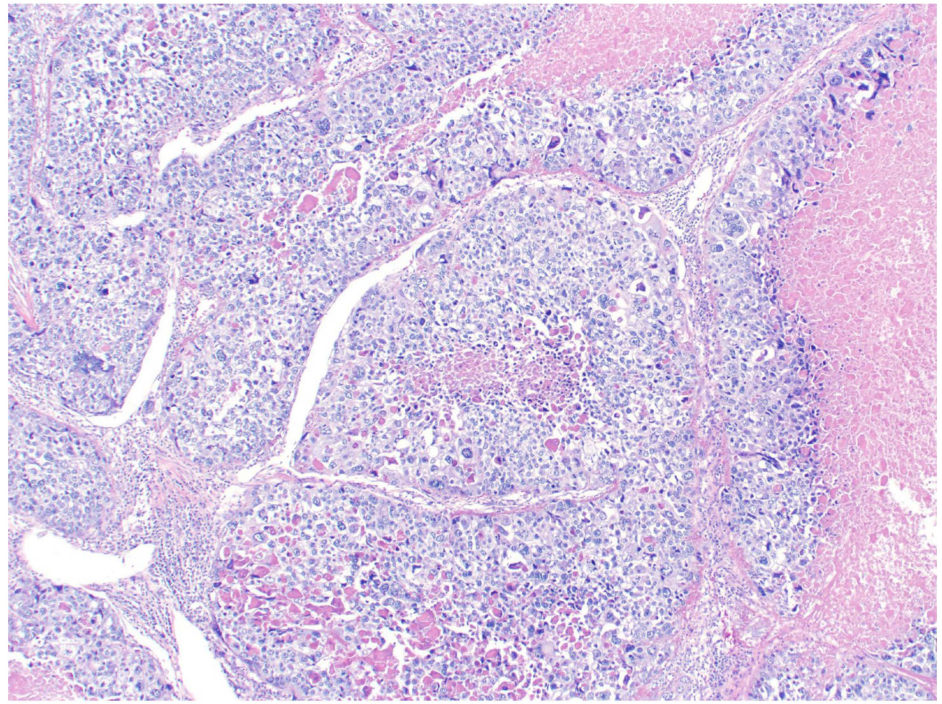

GATA3

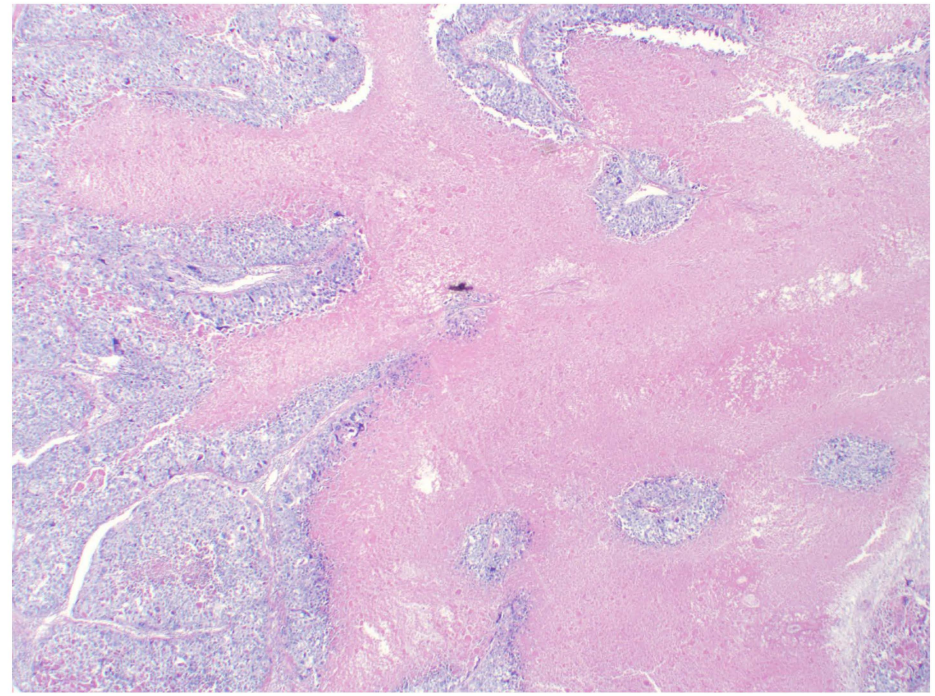

P63

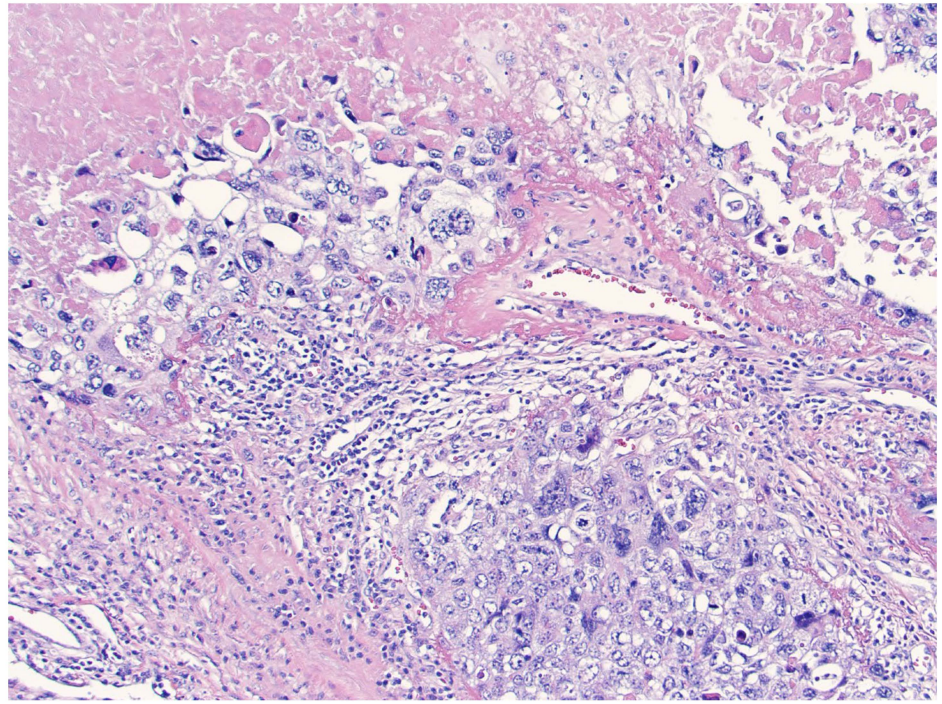

Normal
Tissue
Tumor
*
*

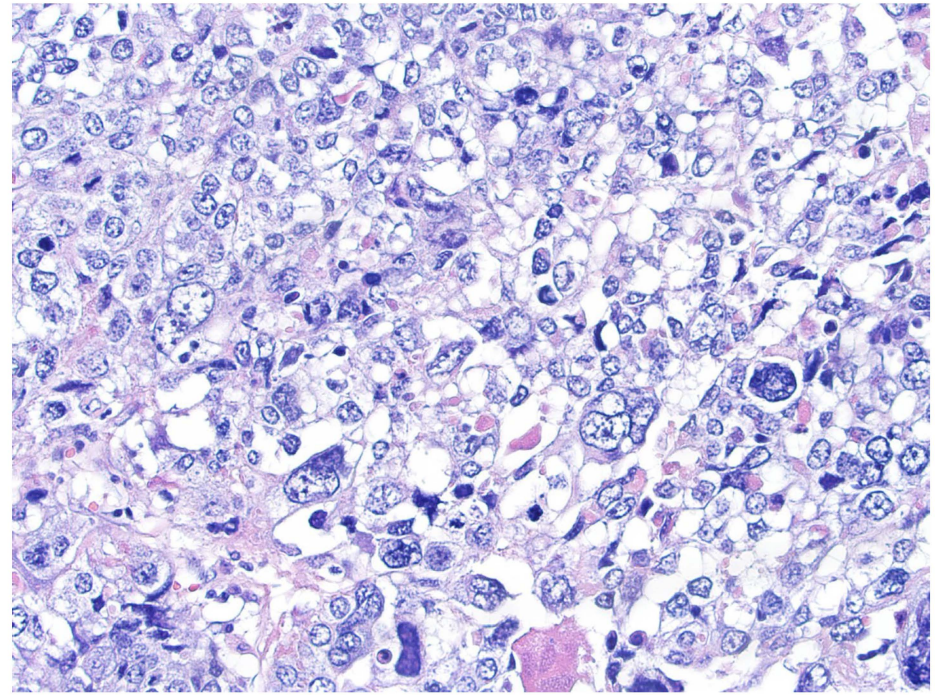
# Diagnostic Options

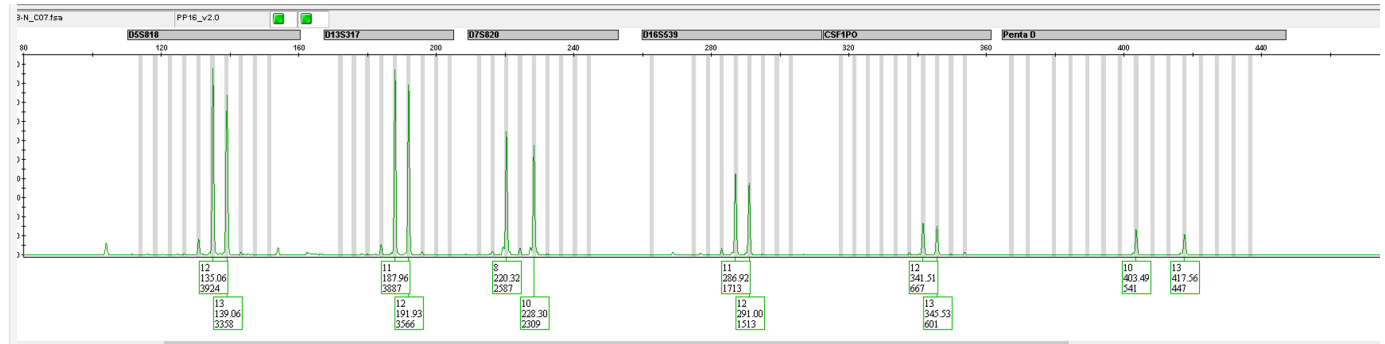
- Gestational PSTT
- Gestational ETT
- Nongestational tumor with PSTT differentiation
- Somatic carcinoma with ETT differentiation



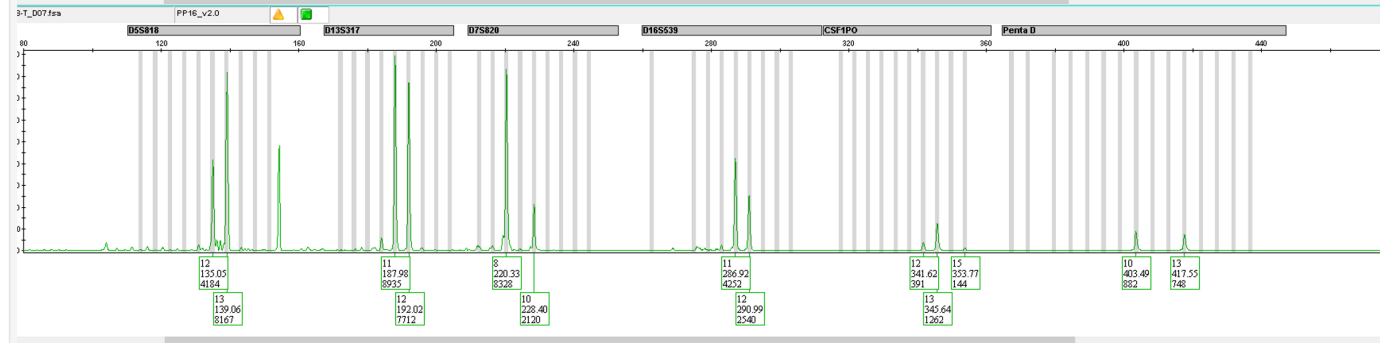




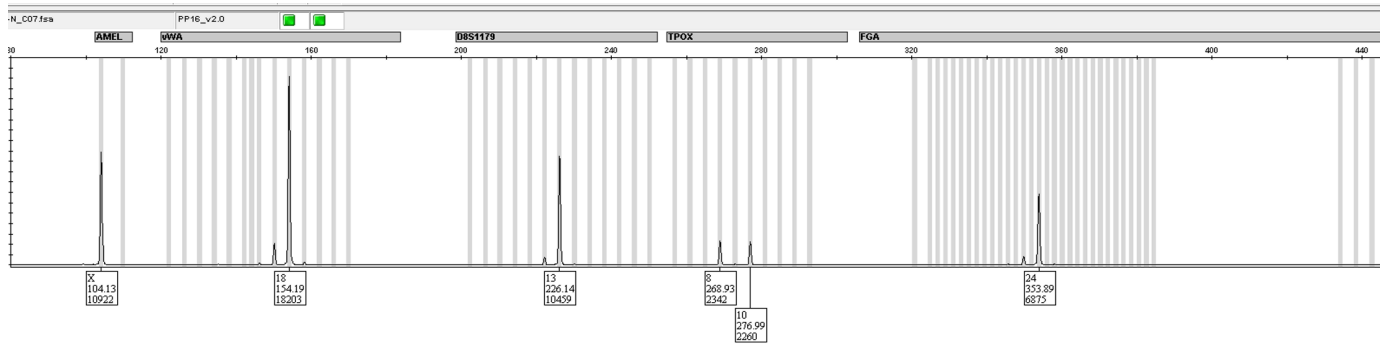




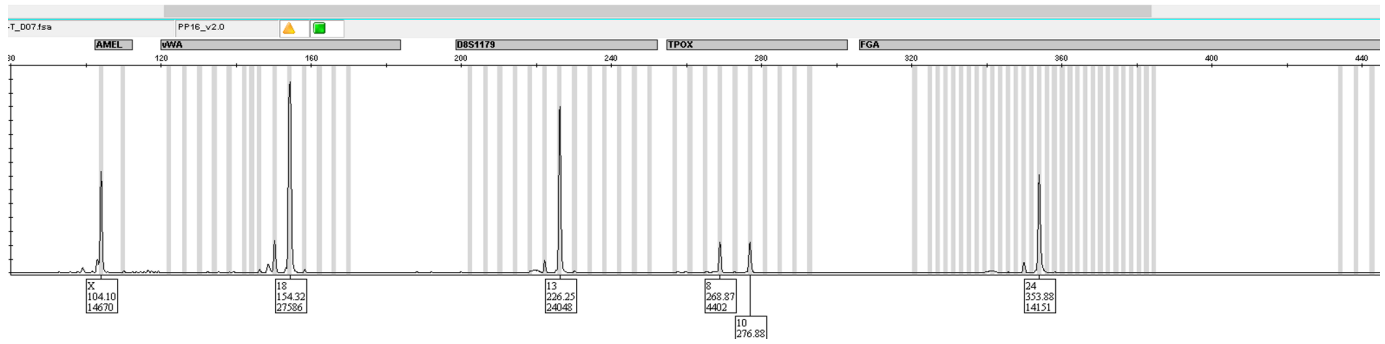

Normal Tissue




Tumor




Normal Tissue




Tumor

The overall STR genotyping profile identifies a matching allelic pattern between the tumor and its paired normal tissue. Loss of one of the two alleles at a few STR loci indicates the presence of loss of heterozygosity (LOH), which is frequently observed in high grade malignancies.

The key immunohistochemical marker in separating ETT from PSTT is P63, which is diffusely expressed in ETT in contrast to a negative staining in PSTT. Diffuse positivity for hPL is a feature of PSTT in contrast to absence to focal expression in ETT.

# Final Diagnosis: Somatic Carcinoma with Trophoblastic (ETT) Differentiation

DISCUSSION: While gestational trophoblastic tumors may arise from an ectopic pregnancy, ovarian germ cell tumors or somatic carcinomas may present with trophoblastic differentiation, mimicking gestational ETT as illustrated in the current case. When pure in histology, immunohistochemistry does not allow a diagnostic separation and STR genotyping is required for definitive diagnosis. It is necessary to emphasize that a diagnostic distinction of epithelioid trophoblastic tumor from somatic carcinoma with trophoblastic differentiation is of paramount clinical importance. High stage somatic carcinomas with trophoblast differentiation generally have a poor clinical outcome and are treated with platinum-etoposide based chemotherapy. In contrast, patients with gestational ETT have generally a favorable prognosis and treated with adjuvant chemotherapeutic regimens tailored for gestational trophoblastic tumors.