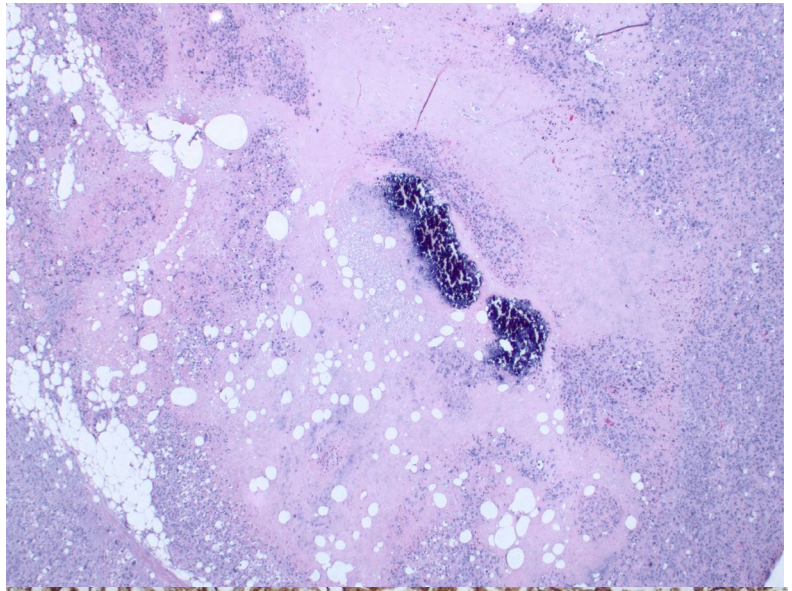
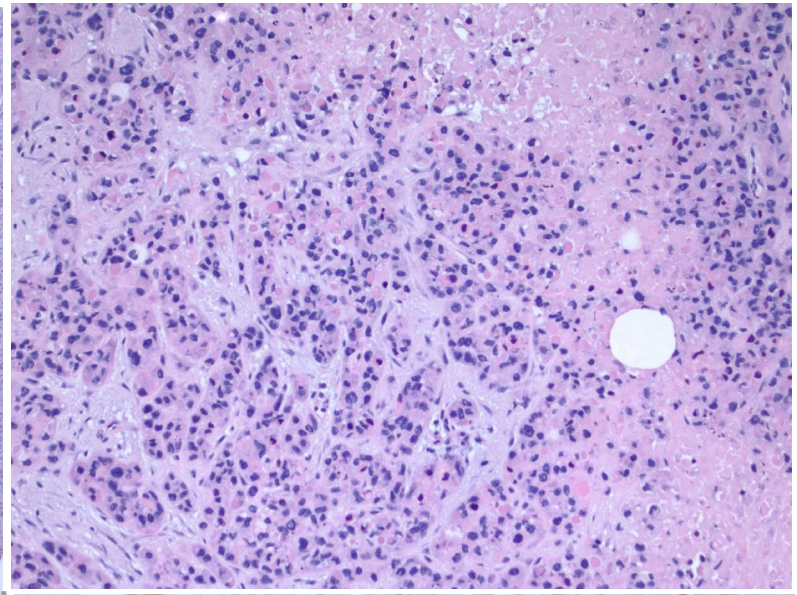
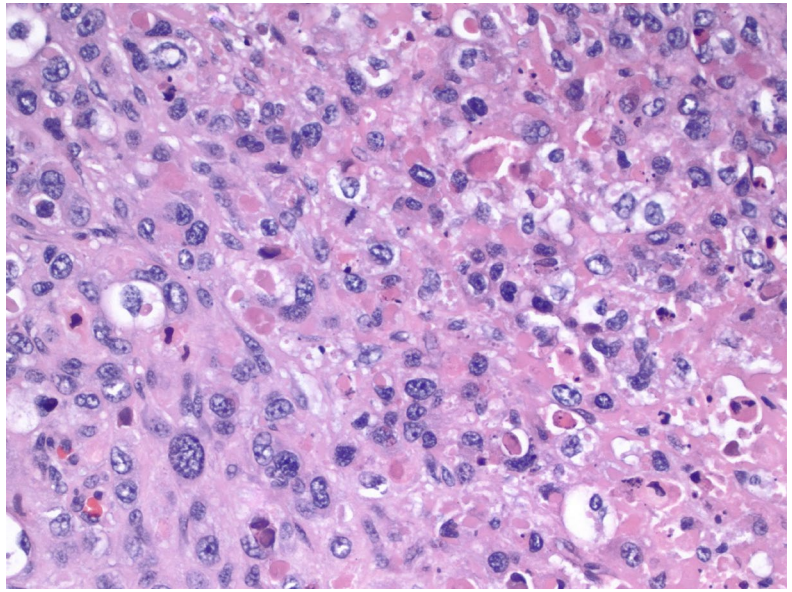
Where Knowledge is Created and Shared
Yale Pathology

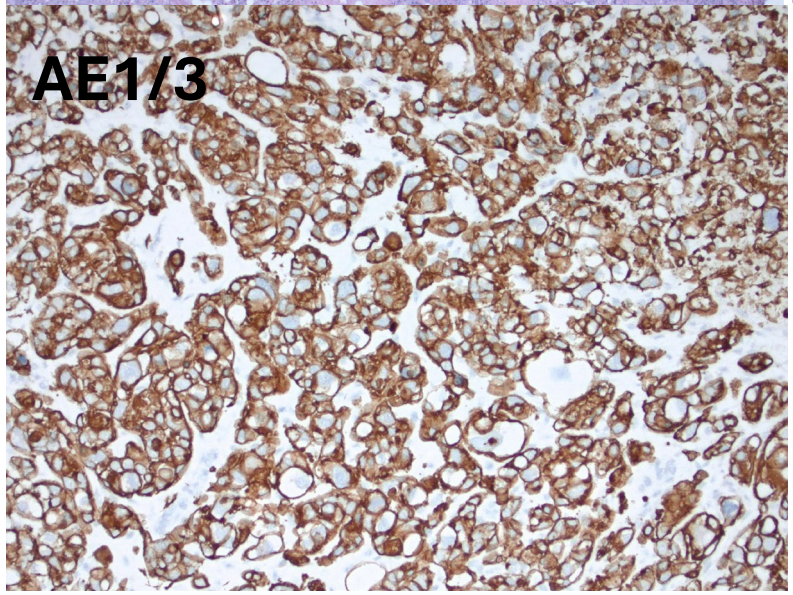
Y-GTD Case of November 2024

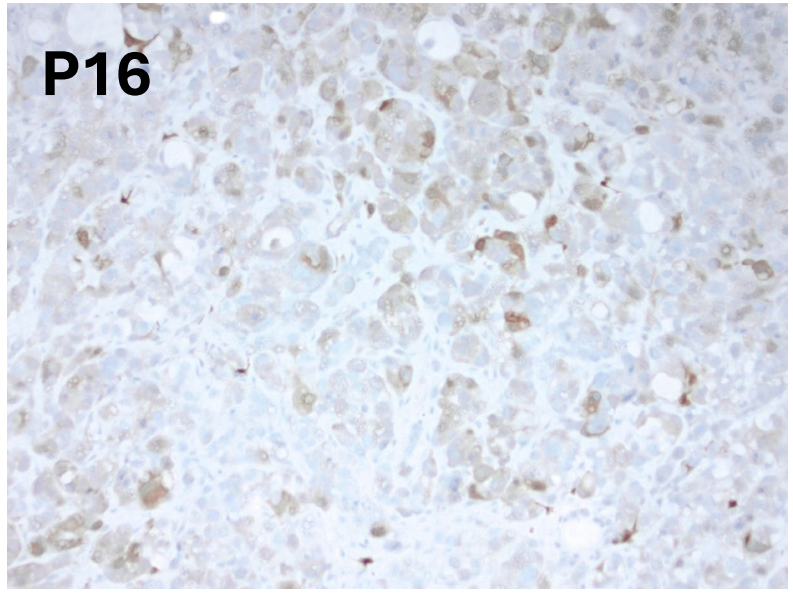
Postmenopausal woman presented with pelvic pain, vaginal bleeding, and a large uterine mass with fistula formation and pleural effusion. Laparotomy revealed a frozen pelvis. An omental biopsy was performed. The initial diagnosis was poorly differentiated carcinoma with squamoid features.








AE1/3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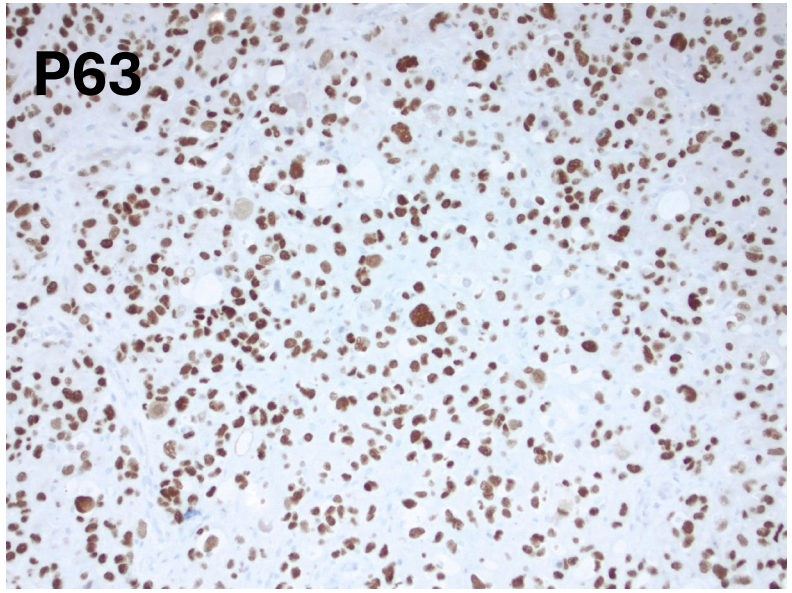
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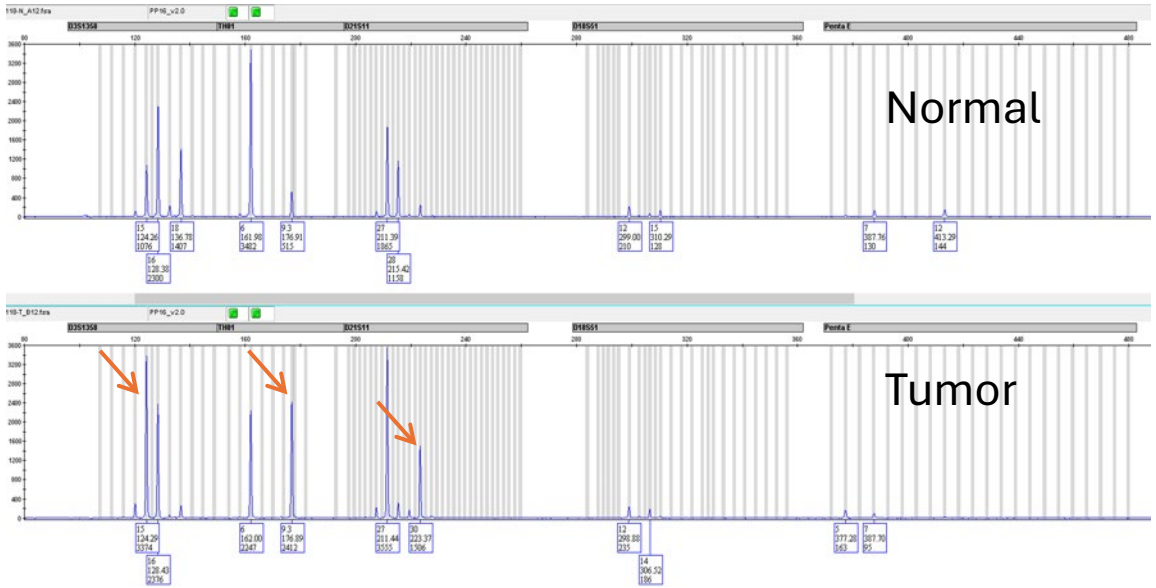
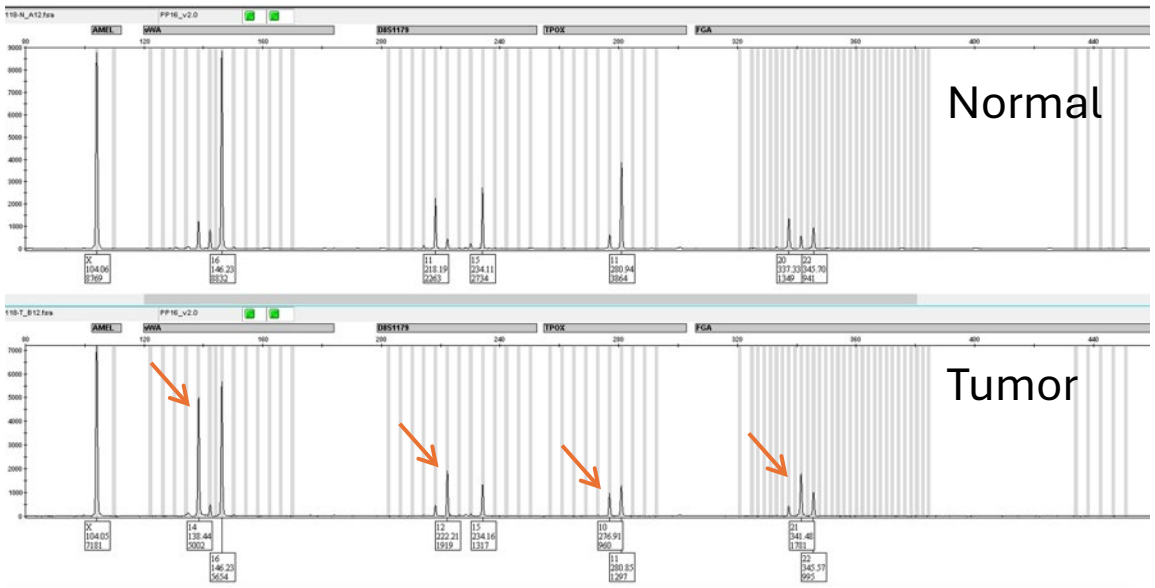
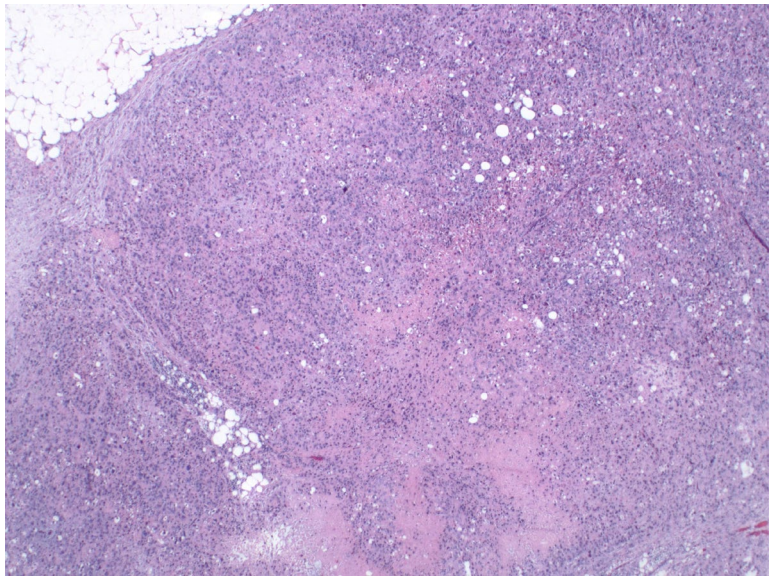


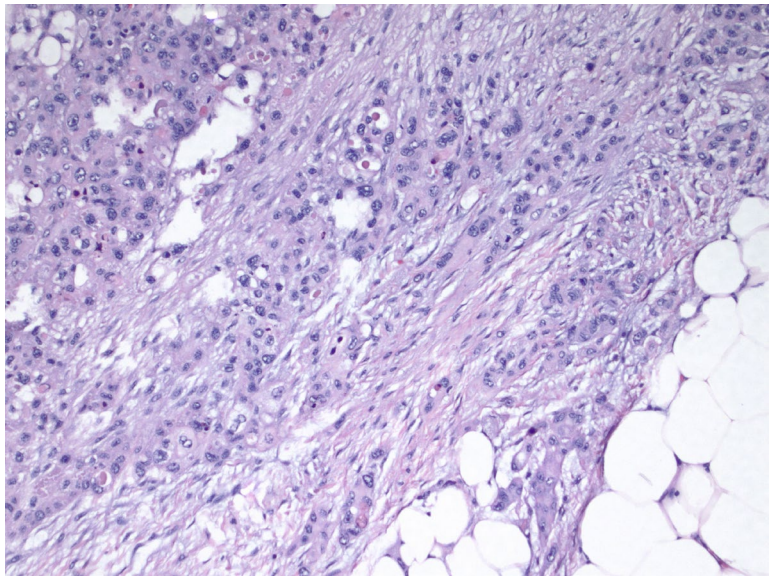


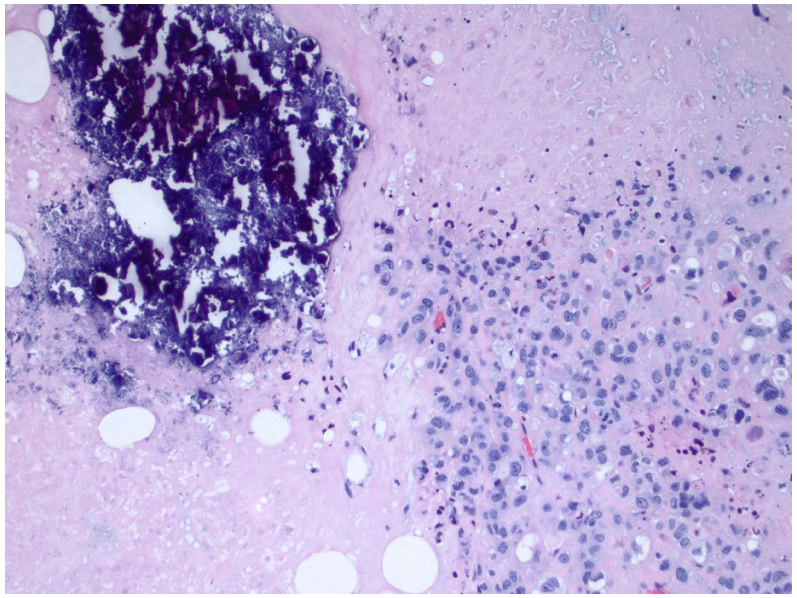
STR Genotyping - Distinct Paternal Alleles In the Tumor (arrows)

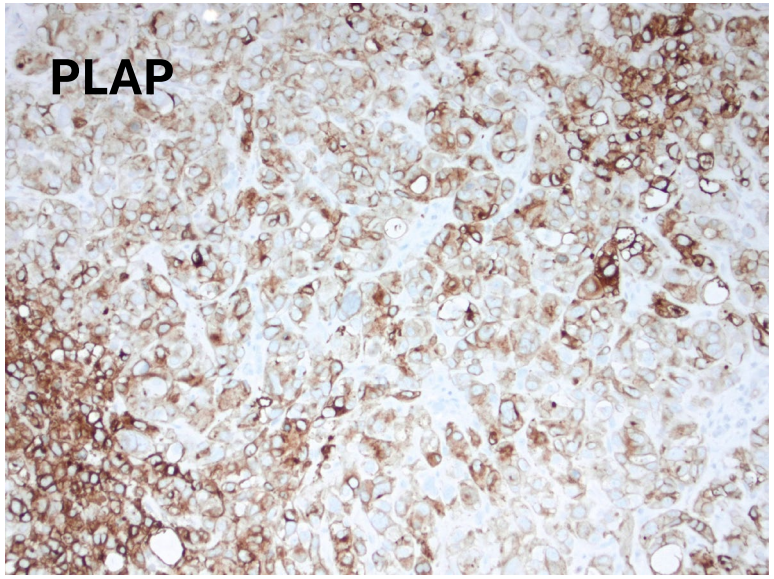
Diagnostic Options

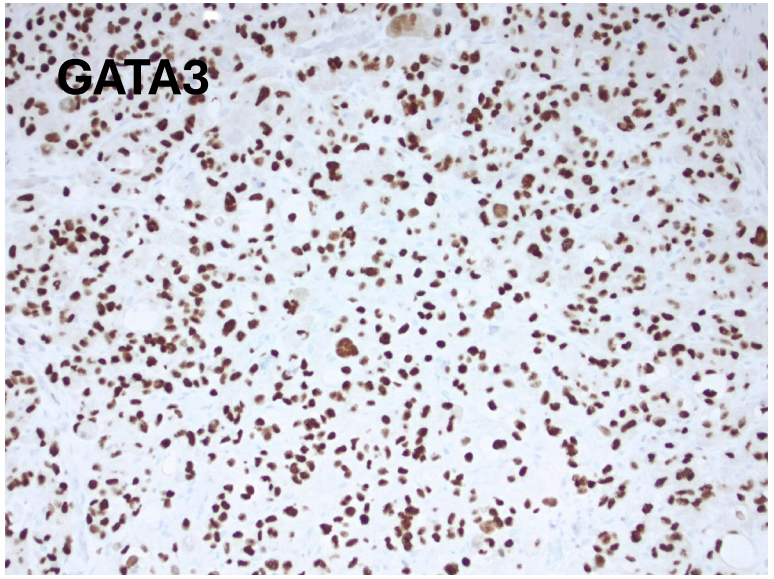
- Metastatic SCC
- Metastatic ETT
- Mesothelioma
- Metastatic PSTT

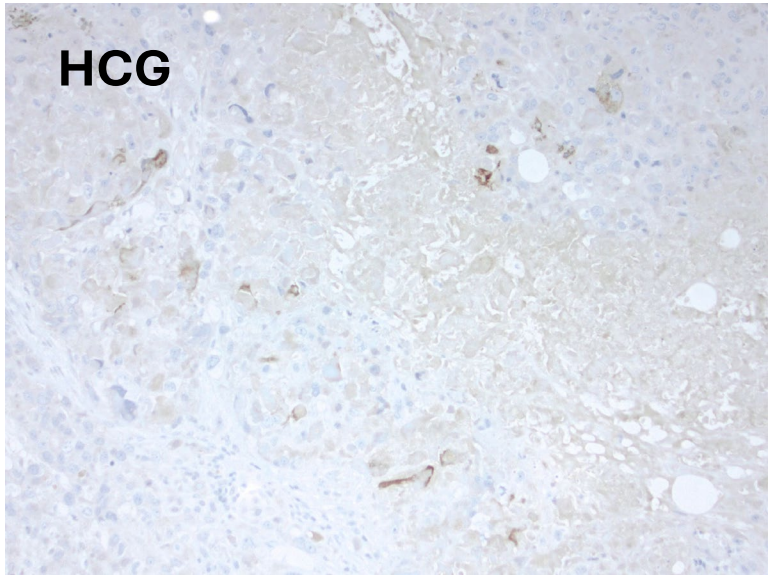







PLAP


GATA3


HCG

DISCUSSION: Diagnostic distinction between ETT and squamous cell carcinoma is crucial for surgical management (simple vs. radical hysterectomy) and chemotherapy options for the patient. This is especially important when an ETT presents with metastasis. Absence of a history of squamous intraepithelial lesions or HPV infection, and the lack of true squamous differentiation (keratin formation or cell bridges) are features of ETT. Immunohistochemical positivity for trophoblastic markers (HSD3B1, HLA-G, hPL, and inhibin-alpha) are characteristic of ETT. Negative or patchy P16 expression is often seen in ETT, in contrast to the block-type staining pattern seen in HPV-associated cervical squamous cell carcinoma. Clinically, an elevated serum hCG is a significant clue for considering ETT, although somatic carcinoma with trophoblastic differentiation can also produce low levels of hCG. In cases where histology and immunohistochemistry are inconclusive, STR genotyping can be a decisive method for accurate diagnosis.

DISCUSSION: While both PSTT and ETT can occur in the uterine corpus, PSTT rarely arises from the uterine cervix. Histologically, ETT typically presents with a sharp tumor border, in contrast to an infiltrative border of PSTT, where tumor cells irregularly merge with the myometrial smooth muscle fibers. The presence of calcification, combined with geographic necrosis, is characteristic of ETT. A unique feature of ETT, compared to PSTT, is its ability to replace the mucosal epithelium of the cervix. P63 and P40 are diffusely expressed in ETT, whereas these markers are consistently negative in PSTT. Diffuse positivity for hPL is a feature of PSTT, in contrast to negative or focally positive staining in ETT.

Final Diagnosis: Metastatic Uterine ETT