

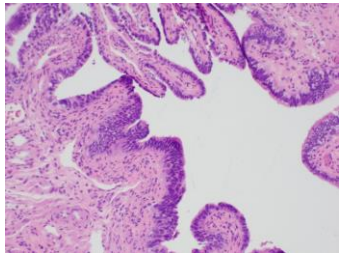
## A Case Report

Shipp, Arianne (OMS-III); Torres, Wanda (MD)

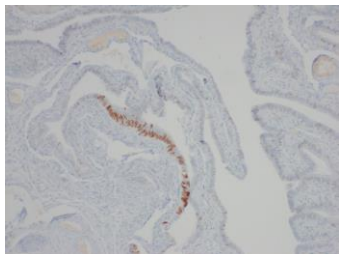
### INTRODUCTION

- Indications for hysterectomy
  - Fibroids
  - Endometriosis
  - Adenomyosis
  - Abnormal bleeding
  - Gynecological cancers
- Increasing merit for prophylactic bilateral salpingectomy with hysterectomy for benign indications
- Epithelial ovarian cancers likely arise from fallopian tube epithelium rather than the ovary itself

### H&E STAIN AND P53 IMMUNOSTAIN



The Hematoxylin and Eosin stain (H&E) slides show the crowding and overlapping of the atypical epithelial cells lining the fallopian tube compared to the normal epithelial cells in the background.



The p53 immunostain diffusely highlights the accumulation of p53 and atypical cells of the fallopian tube confirming the diagnosis of STIL, and only highlights a few scattered normal epithelial cells in the background.

#### References:



### CASE PRESENTATION

A 47-year-old G2P2 female presented to the outpatient clinic in 2023 with 4 years of chronic bilateral lower quadrant abdominal pain and back pain.

#### Medical History

- Essure for contraception, endometriosis with adhesiolysis and laparoscopy, infertility, ovarian cyst, dysmenorrhea, D&C as a teenager
- no hx of STI, tobacco use, workplace/environmental exposures, DES exposure, cervical dysplasia, vulvar dysplasia, abnormal colonoscopy or mammogram
- menstrual periods: monthly, 5 days of moderate flow with cramping and clotting
- family hx of breast cancer in paternal grandfather
- physical exam: fixed, tender, enlarged uterus of 6 weeks size with irregular contour

#### Assessment and Plan

- Pelvic US: posterior intramural fibroid 2.1 x 2.4 x 2.3 cm, anterior fibroid 2.1 x 1.7 x 1.9 cm. 1.1 cm endometrial stripe with normal appearing endometrium and right ovary. Left ovary not visualized. No free fluid.
- MRI pelvis w/wo contrast: focal thickening of uterine fundal junctional zone 1.8 x 1.9 cm, either focal adenomyoma or submucosal fibroid; small endometriotic implant; atypically positioned left ovary, identified in right adnexal region.
- Patient requested removal of Essure implants and hysterectomy due to pain
- Patient received robot assisted laparoscopic hysterectomy, bilateral salpingectomy, removal of left ovarian remnant, right oophorectomy and cholecystectomy due to chronic cholecystitis

#### Postoperative Pathology Report

- acute and chronic cervicitis with benign endocervical cysts
- benign late secretory endometrium with adenomyosis
- leiomyomata with the largest measuring 0.6 cm
- right fallopian tube with focal serous tubal intraepithelial lesion (STIL) and paratubal cyst (see staining)
- benign left fallopian tube and left ovarian remnant
- benign right ovary with focal osseous metaplasia
- intact gallbladder with no masses or stones
- metallic Essure devices noted bilaterally

#### Discharge Plan

- Patient referred to gynecologic oncology and tested negative for BRCA1 and 2

### DISCUSSION

**SCOUT:** due to oxidative stress from follicular fluid exposure at ovulation

**p53 signature:** normal architecture of tubal epithelium with p53 mutation and no proliferation

**STIL:** accumulation of p53 in >20 cells, some with morphological abnormalities, slightly increased proliferative activity, represent exfoliated precursor cells that may eventually undergo malignant transformation

**STIC:** more aggressive dysregulation, many cells with architectural and nuclear alterations, upregulated proteins involved in cell adhesion and cancer invasion, TP53 mutations, and higher proliferative activity

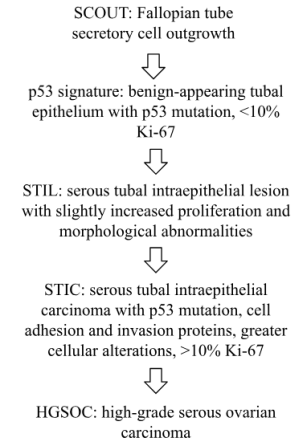
#### HGSOC:

-current theory: cells progressing through the p53 signature to STIL and STIC lesions. STIC cells detach from the fallopian tube surface and disseminate to the ovaries and peritoneal tissue, where masses are formed.

-gene mutations and protein expression: TP53, p53, p21, cyclin E1, Rsf-1, laminin  $\gamma$ 1 protein, fatty acid synthase, stathmin1, p16, and BRCA

#### BRCA1 and BRCA2 mutations:

- contribute to the survivability of STICs and STILs by increased triglycerides, preserving homeostasis
- increased risk of ovarian, fallopian tube, and peritoneal cancers
- Patient family history (+) for breast cancer, patient tested (-) for BRCA 1 and 2



### CONCLUSIONS

1. routinely sectioning the fimbrial end of the fallopian tube to detect any early malignant changes and decrease the overall risk of HGSOC
2. increasing proposal of prophylactic salpingectomy alongside hysterectomy for benign indications
3. importance of preventative removal and staining of any tissues sampled from a body cavity
4. documentation of patient history and results from pathology contributes to the growing knowledge of STIL cases