



# Fertility Preservation in 2020: Cases for Discussion

# CASE 1

# 12 year old male with left testicular torsion

- Presented to local ED, to OR within 4 hours of onset of pain
  - Dusky; orchiopexy performed
- Pre/intraoperatively: nonpalpable RIGHT testicle
  - Surgeon (adult urologist) recommended MRI

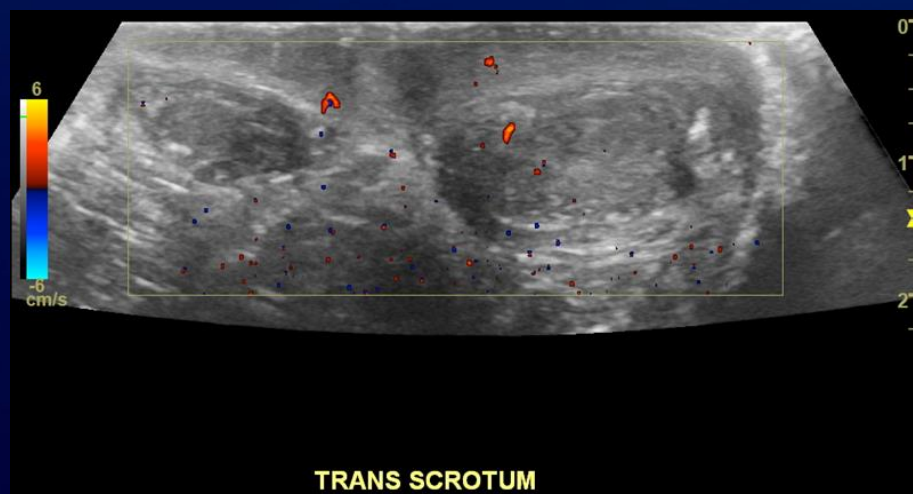
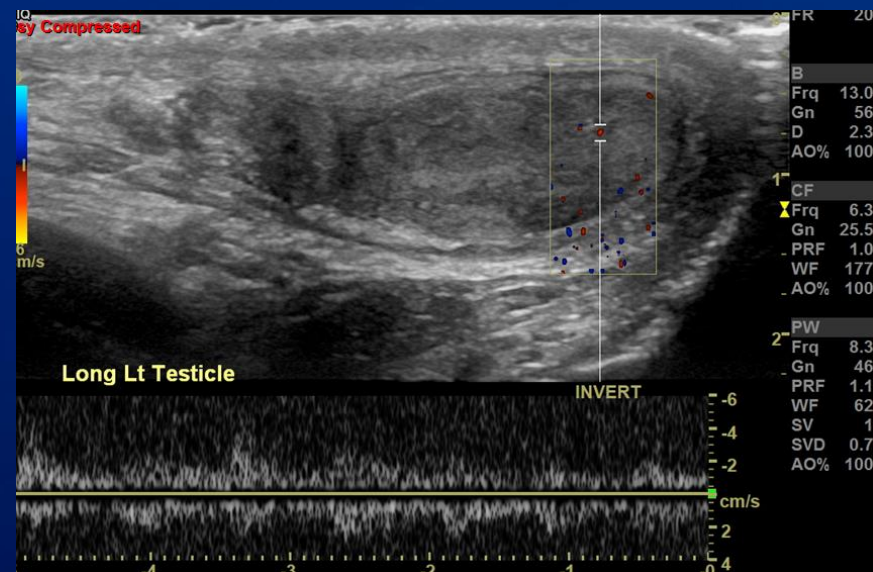
## 3 months after orchiopexy...

- Referred to Pediatric Urology
  - Birth history: bilateral descended testes
  - According to Epic: testes down at well-child visits for past 5 years

# Physical Exam

- Tanner 4
- Left testis slightly atrophic, normal consistency
- Subtle scrotal asymmetry. Right hemiscrotum slightly less rugated, some tissue palpable beyond external ring

# Review of post-orchiopexy ultrasound



# Labs

Diagnostics: April 2019 (elsewhere

▼ ENDOCRINE TESTING MISC			
Component Name	4/5/2019	4/5/2019	4/5/2019
Testosterone Free	1.29		
Testosterone Total	76		
FSH		98.3 (H)	
LH			46.6 (H)

# What would you offer?

- Attempt semen cryopreservation?
  - Zero sperm seen
- Testicular tissue cryopreservation?

- Wants a testicular prosthesis
  - To OR for:
    - Right groin exploration, excision of remnant
    - Placement of prosthesis
    - Left testicular biopsy
      - Back table TESE if sperm seen
- vs
- Cryopreservation of tissue

# Intraoperative findings

- Right atrophic testis within inguinal canal, 1.1 x 0.7 x 1.0cm → removed
  - Completely dissociated epididymal tail, which was extending into scrotum
- Left testis slightly atrophic
  - Testicular biopsy: normal-appearing testicular parenchyma at periphery, central avascular firm tissue

# Pathology:

- Testis, right: Immature seminiferous tubules, showing Sertoli cells only pattern. No active spermatogenesis.
- Testis, left, biopsy: Immature seminiferous tubules, showing Sertoli cells only pattern. No active spermatogenesis.

## Now what?

- Testosterone supplementation
- Should his tissue be kept in storage, or is it a waste of money?

# CASE 2

# 13 year old trans female

- Transitioned
  - socially at age 3 years
  - In school around 2<sup>nd</sup> grade
  - Interested in puberty blockade

# Physical exam

- General: no obvious voice change
- Genitalia: Tanner III, testicular size 4.5cm bilaterally. Symmetric scrotal rugation. Stretched penile length 7.5cm

- LH 4.8, FSH 2.5 (WNL)
- Free testosterone 3.40 ng/dL
- Total testosterone 200ng/dL

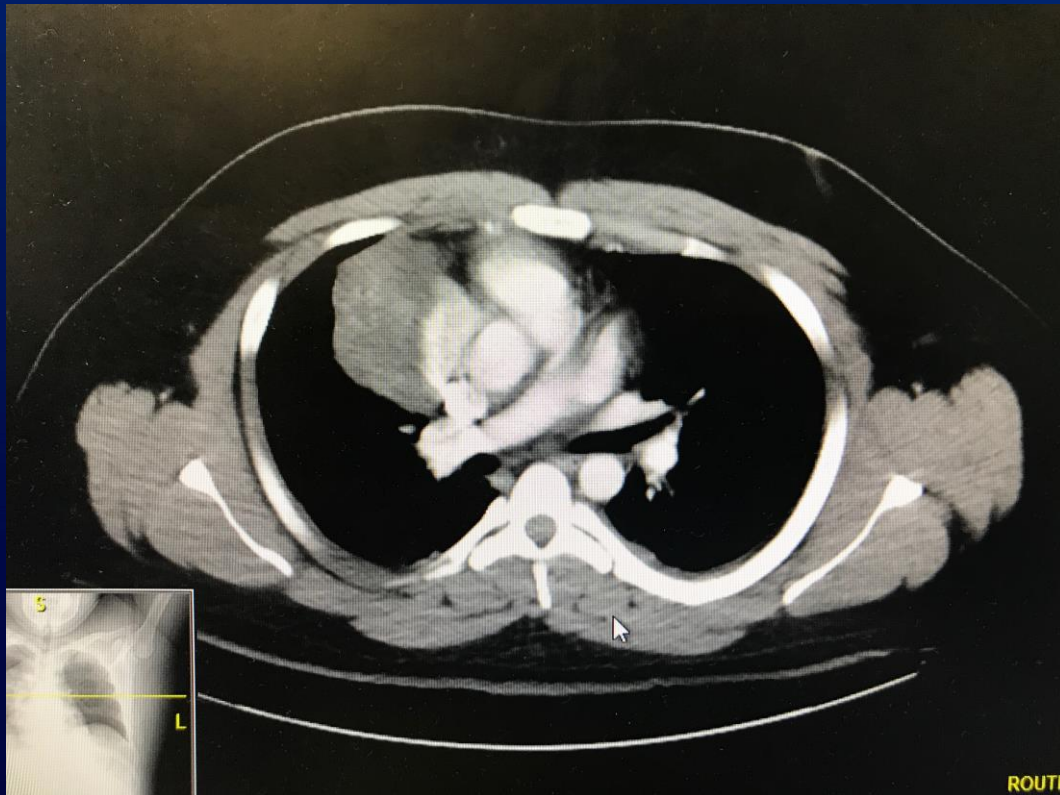
- Mother has done research, requests fertility preservation
  - Patient initially not interested, but wants to hear options
- Scant data on spontaneous return of sperm production upon d/c'ing puberty blocker
  - Per patient: would also be very difficult

- What would you offer?
- Any issues with insurance coverage?

- Seminiferous tubules and mature spermatids are identified.
  - 12 vials of personal use testicular tissue was stored.
  - In addition to this, 5 mature sperm were seen, 2 of them motile and 3 non motile.

## CASE 3

- 17 year old male with metastatic germ cell tumor, mediastinal primary



- Going to OR next day for port placement
- Fertility preservation discussion:
  - Can't he just give a semen sample??
  - Would you still preserve tissue if viable sperm are found on TESE?

# Open testicular biopsy, TESE

- 10 vials for patient use and 5 vials for research.
- Per patient (and parent) request we also have 8 vials of TESE sperm frozen for patient use.
- The 10 vials are being frozen per IRB requirements and the 8 vials were frozen per our standard REI freezing protocol.
- Sperm were found, both non-motile (5-10 per HPF) and twitching (3 in 5 HPF's).