

# Testicular Seminoma

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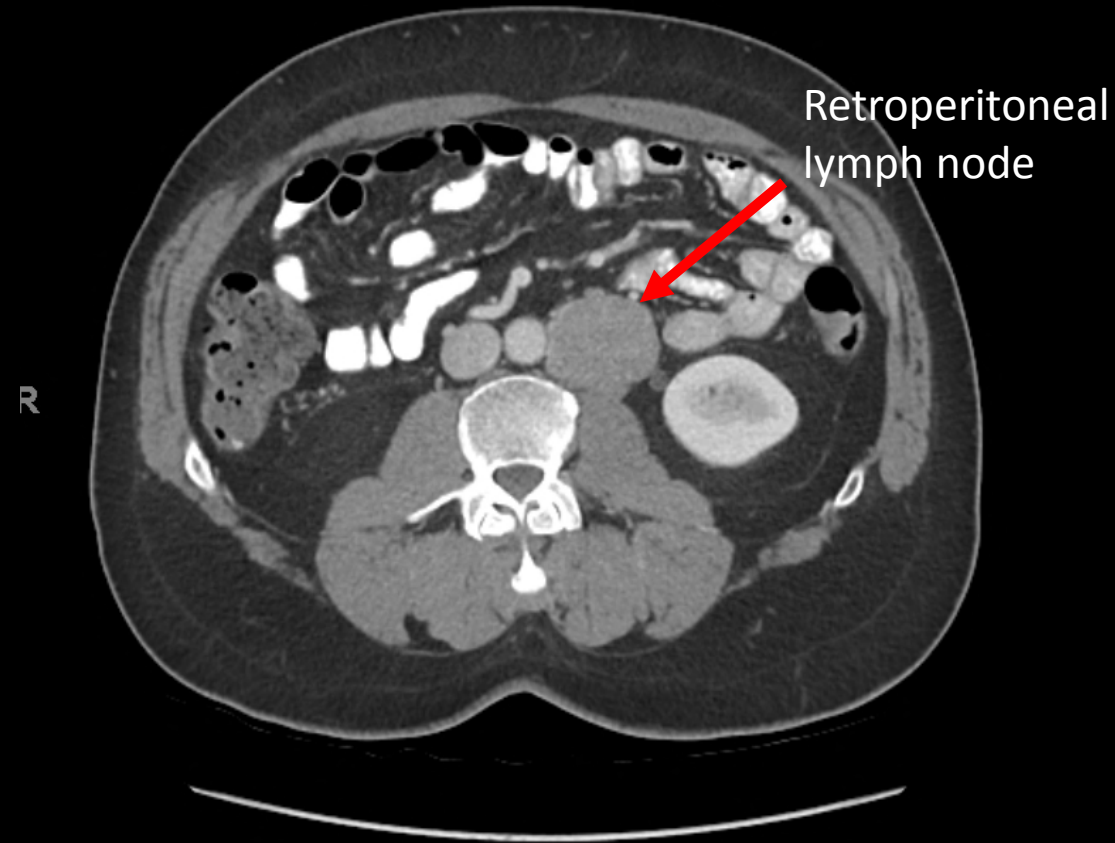
RAD 4001

Dr. Raghu Vikram

# Clinical History

- 65 year old male
  - Undergoing work up for Gleason 6 prostate carcinoma found on prostate biopsy
  - Left retroperitoneal adenopathy seen on CT

# Abdominal CT

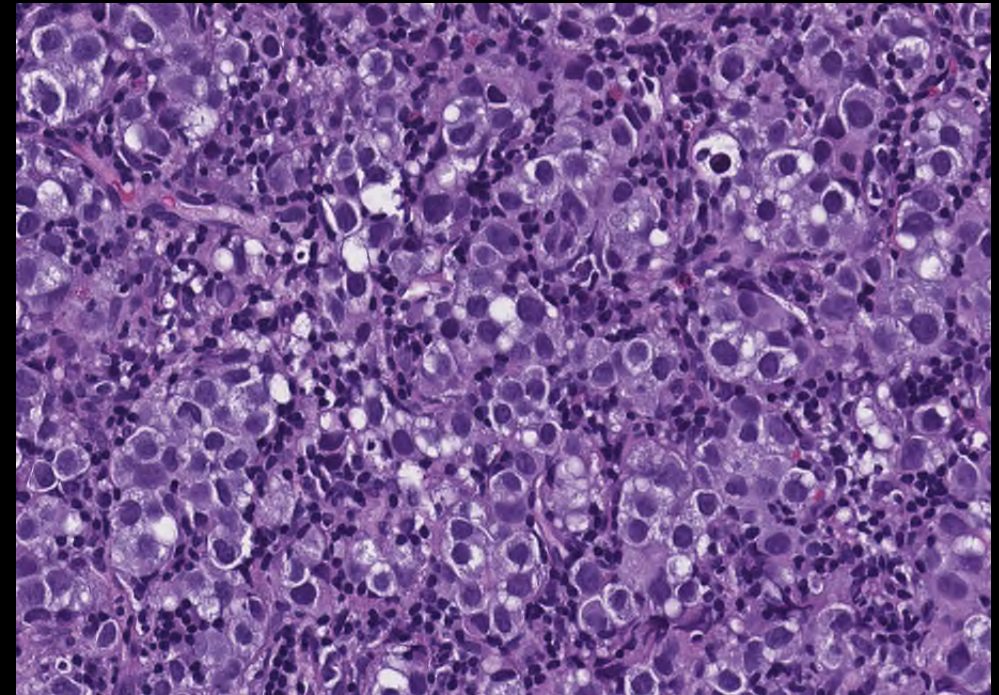
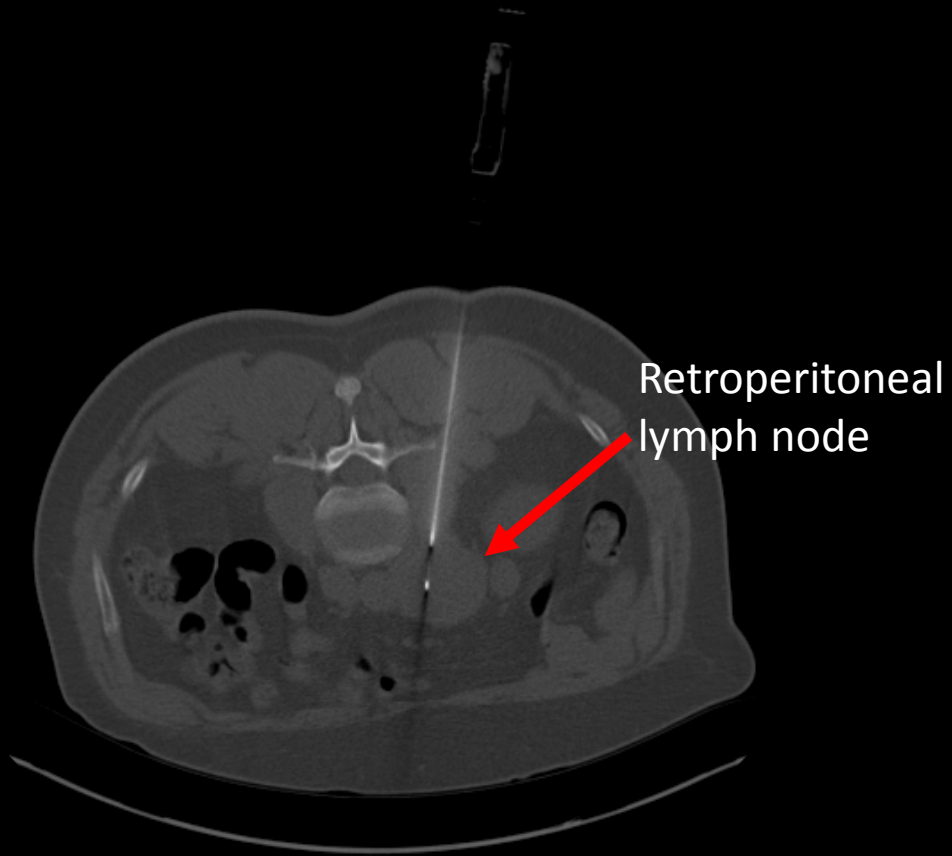


FOV: 420.0 mm

# Differential Diagnosis?

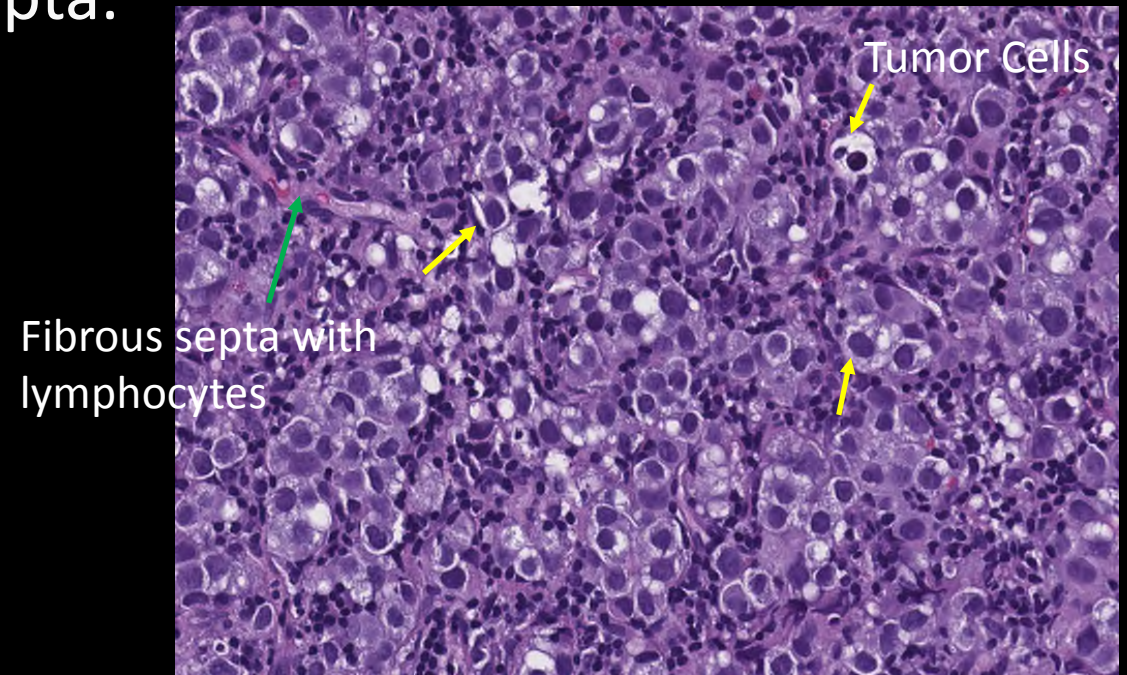
- Reactive adenopathy?
- Prostate metastases?
- Another malignant process?

# CT Guided Biopsy



# Histopathology

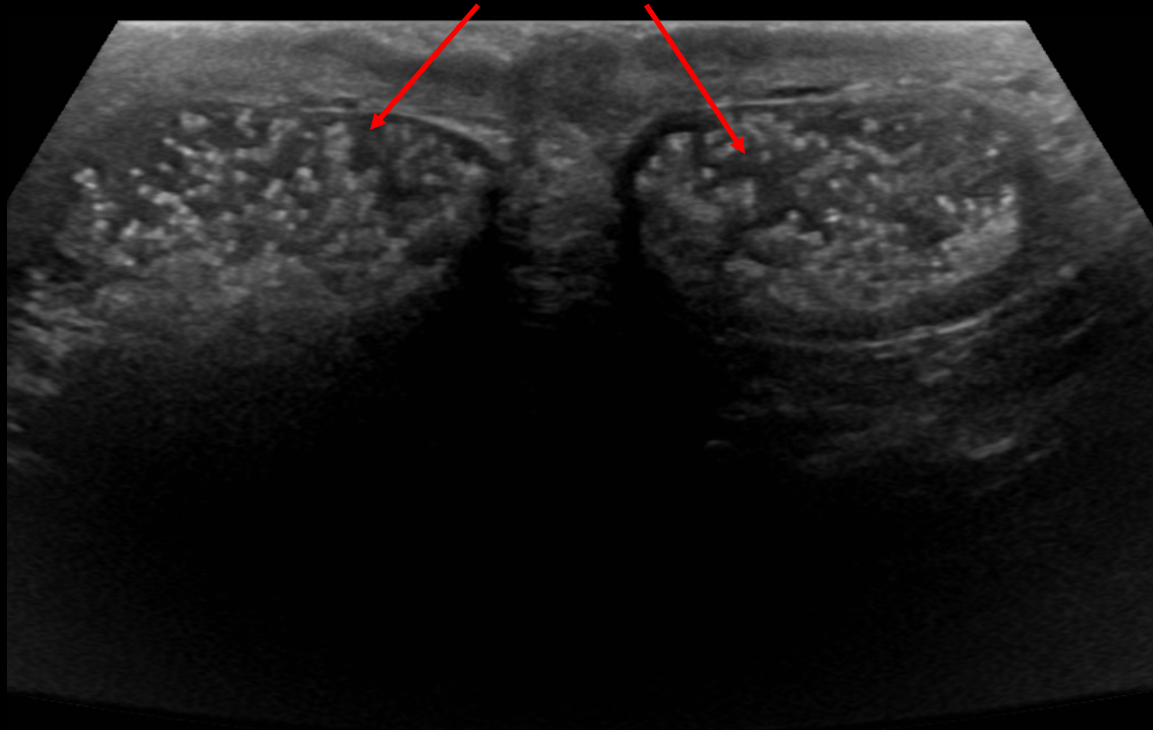
- Tumor cells with abundant clear cytoplasm and large nuclei
- “Fried egg” appearance
- Lymphocytic infiltrates in fibrous septa.
- Final pathology report: metastatic germ cell tumor, suggestive of seminoma





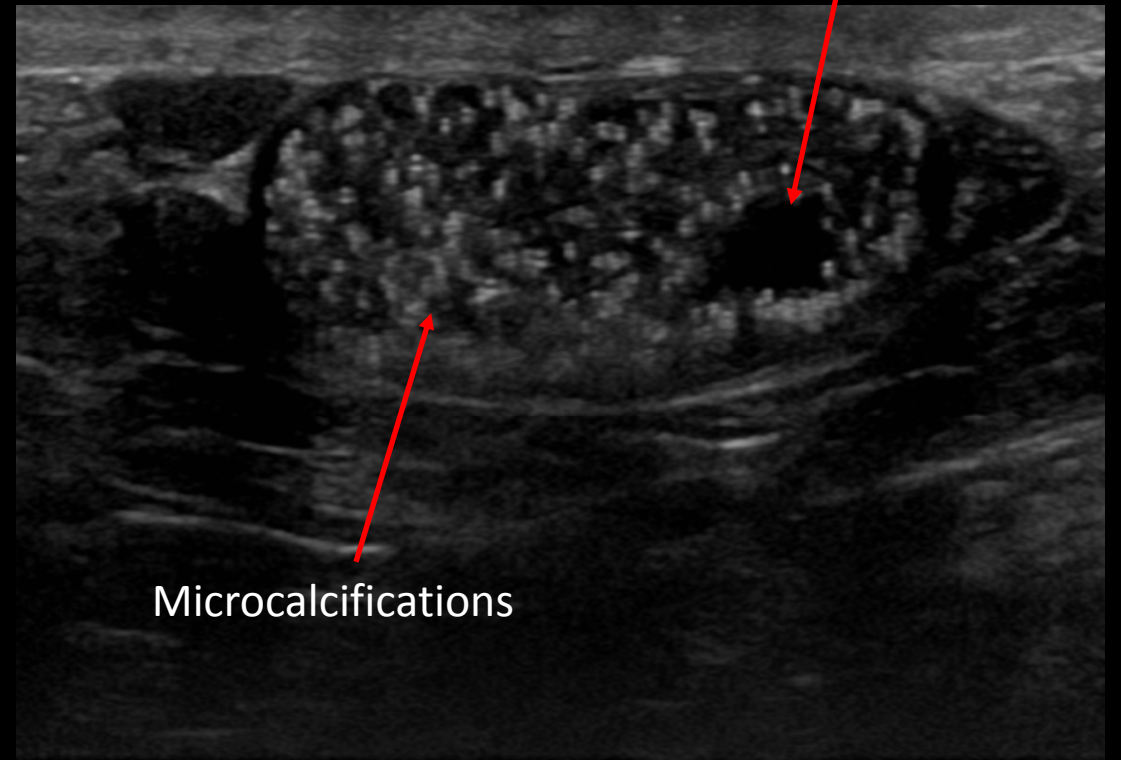
# Ultrasound

Microcalcifications



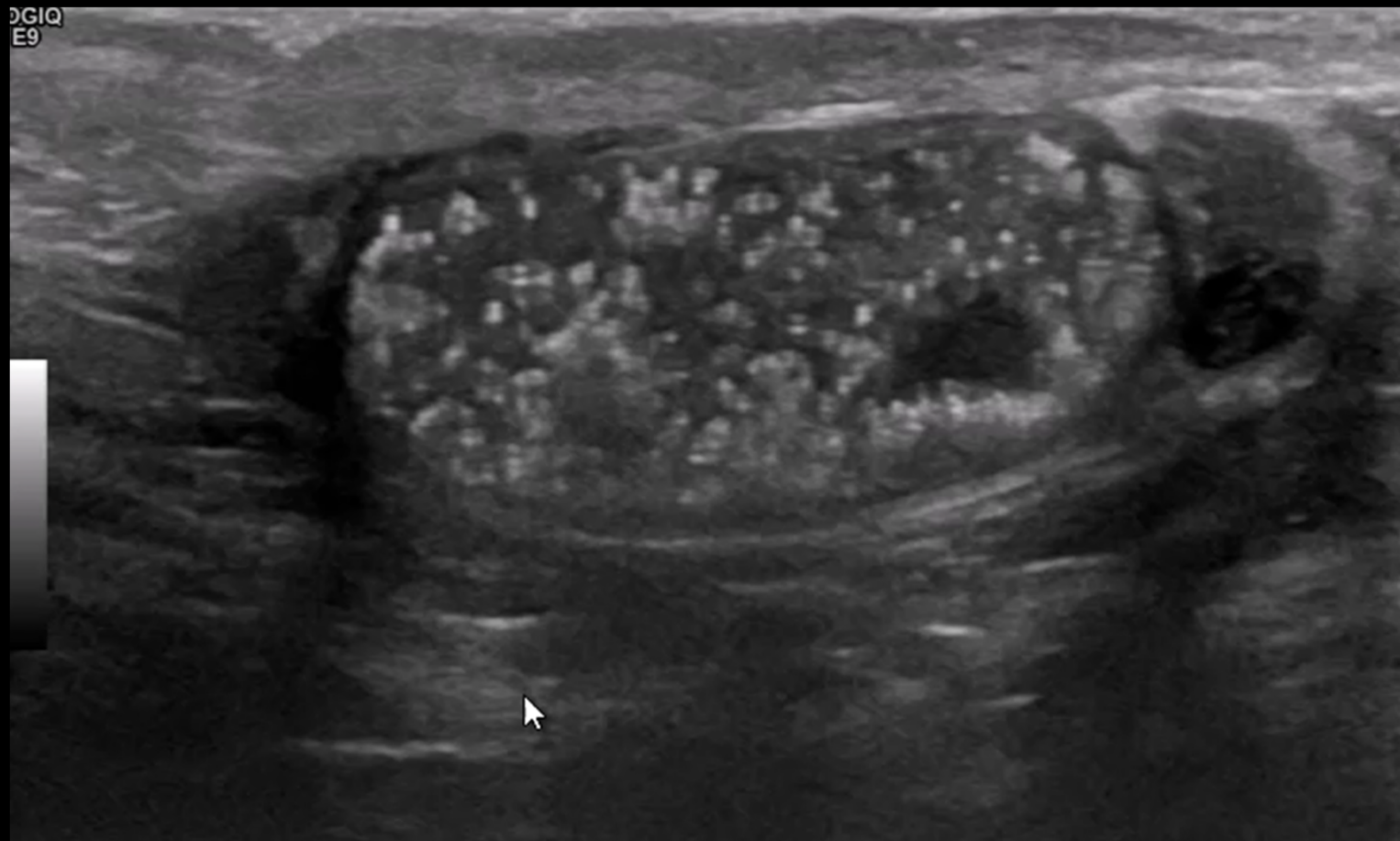
RT TRANS TESTES

Hypoechoic lesion, likely seminoma



LONG LEFT TESTICLE

# Ultrasound





# Key Findings:

- Adenopathy with known history of low grade prostate carcinoma
- Retroperitoneal lymph node biopsy indicative of a seminoma
- Bilateral testicular microlithiasis seen on follow up ultrasound
- Hypoechoic left testicular lesion

# Testicular Microlithiasis

- This is a relatively rare condition that is found incidentally on ultrasound
- It has been found to be linked to infertility, as well as testicular cancer
- Usually there is no follow up unless other risk factors are present, such as:
  - History of germ cell tumor in self or first degree relative
  - History of maldescent
  - History of orchidopexy
  - Atrophy <12 ml volume

# Final Diagnosis

- Stage 4 testicular seminoma

# Discussion

- 30-50% of testicular germ cell tumors are seminomas
- 95% cure rate for stages 1 or 2
- Even with Stage 4 disease, around 80% survive for 5 years or more after diagnosis

# Treatment

- Orchiectomy
- Radiation therapy (very radiosensitive)
- Cisplatin based chemotherapy for bulky retroperitoneal disease or supradiaphragmatic involvement

# ACR appropriateness Criteria

**Variant 3:** Clinically established low-risk prostate cancer. Active surveillance.

Radiologic Procedure	Rating	Comments	RRL*
MRI pelvis without and with IV contrast	8		○
MRI targeted biopsy prostate	8		○
TRUS guided biopsy prostate	7	Serial repeat TRUS-guided systematic biopsy is standard practice for patients on active surveillance, but MRI (with or without contrast) should be performed as well so that MRI-targeted biopsies (fusion or in-bore technique) can be obtained from appropriate suspicious lesions.	○
MRI pelvis without IV contrast	7		○
TRUS prostate	2		○
CT abdomen and pelvis with IV contrast	2		☼☼☼
CT abdomen and pelvis without IV contrast	2		☼☼☼
CT abdomen and pelvis without and with IV contrast	2		☼☼☼☼
Tc-99m bone scan whole body	1		☼☼☼
<b>Rating Scale:</b> 1,2,3 Usually not appropriate; 4,5,6 May be appropriate; 7,8,9 Usually appropriate			*Relative Radiation Level



# Imaging Costs:

- CT of the abdomen and pelvis without and with contrast: \$6,454
- Lymph node biopsy: \$2,345.00
- Ultrasound of scrotum: \$538.00

<https://www.mdanderson.org/patients-family/becoming-our-patient/planning-for-care/insurance-billing-financial-support/health-care-disclosures.html>

# Take Home Points

- There can be more than one primary malignancy
- Testicle lymph node drainage is paraaortic, where as the prostate is primarily to the internal iliac region but there is lymphatic communication to the paraaortic region.
- Testicular cancer has a high rate of survival even with spread to the retroperitoneal lymph nodes
- Example of correlation between testicular microlithiasis and testicular cancer

# References

- Al-Hussain T. Seminoma. PathologyOutlines.com website. <http://www.pathologyoutlines.com/topic/testisseminomas.html>. Accessed October 13th, 2019.
- Balawender, Krzysztof et al. "Testicular microlithiasis: what urologists should know. A review of the current literature." Central European journal of urology vol. 71,3 (2018): 310-314. doi:10.5173/ceju.2018.1728
- "Testicular Cancer." Survival | Testicular Cancer | Cancer Research UK, Cancer Research UK , 23 Feb. 2018, [www.cancerresearchuk.org/about-cancer/testicular-cancer/survival](http://www.cancerresearchuk.org/about-cancer/testicular-cancer/survival).
- "Price Transparency." *MD Anderson Cancer Center*, [www.mdanderson.org/patients-family/becoming-our-patient/planning-for-care/insurance-billing-financial-support/health-care-disclosures.html](http://www.mdanderson.org/patients-family/becoming-our-patient/planning-for-care/insurance-billing-financial-support/health-care-disclosures.html).
- <https://acsearch.acr.org/docs/69371/Narrative/>



Questions?