Radiology cases – lessons

Case #1: Hemodialysis catheter placement complication

Facts:

- Woman (60) w/ infected hemodialysis catheter
  - Only viable vessel: Left internal jugular
- During cath placement, BP & HR plummet
- IR suspects perforated Superior Vena Cava
- Immediately calls Code, prepares for venogram 2x, patient arrests each time, revived, on 3rd attempt, IR successfully stents the perforation, but patient dies on the table
- Surviving husband sued IR and hospitalist

Case #1: Hemodialysis Catheter placement

Plaintiff's experts:

- IR should have repaired perforation more quickly
- Hospitalist should have placed a separate femoral line for resuscitation

Defense experts:

- IR timely recognized the complication and timely responded with the correct intervention.

Case #1: Hemodialysis catheter placement

- Case went to trial in Fairfax County Circuit Court before a 7 person jury
  - **Outcome?**

- **Key issue with complication**: Did you take customary steps to lower risk of complication and when complication happened, did you timely recognize it and respond

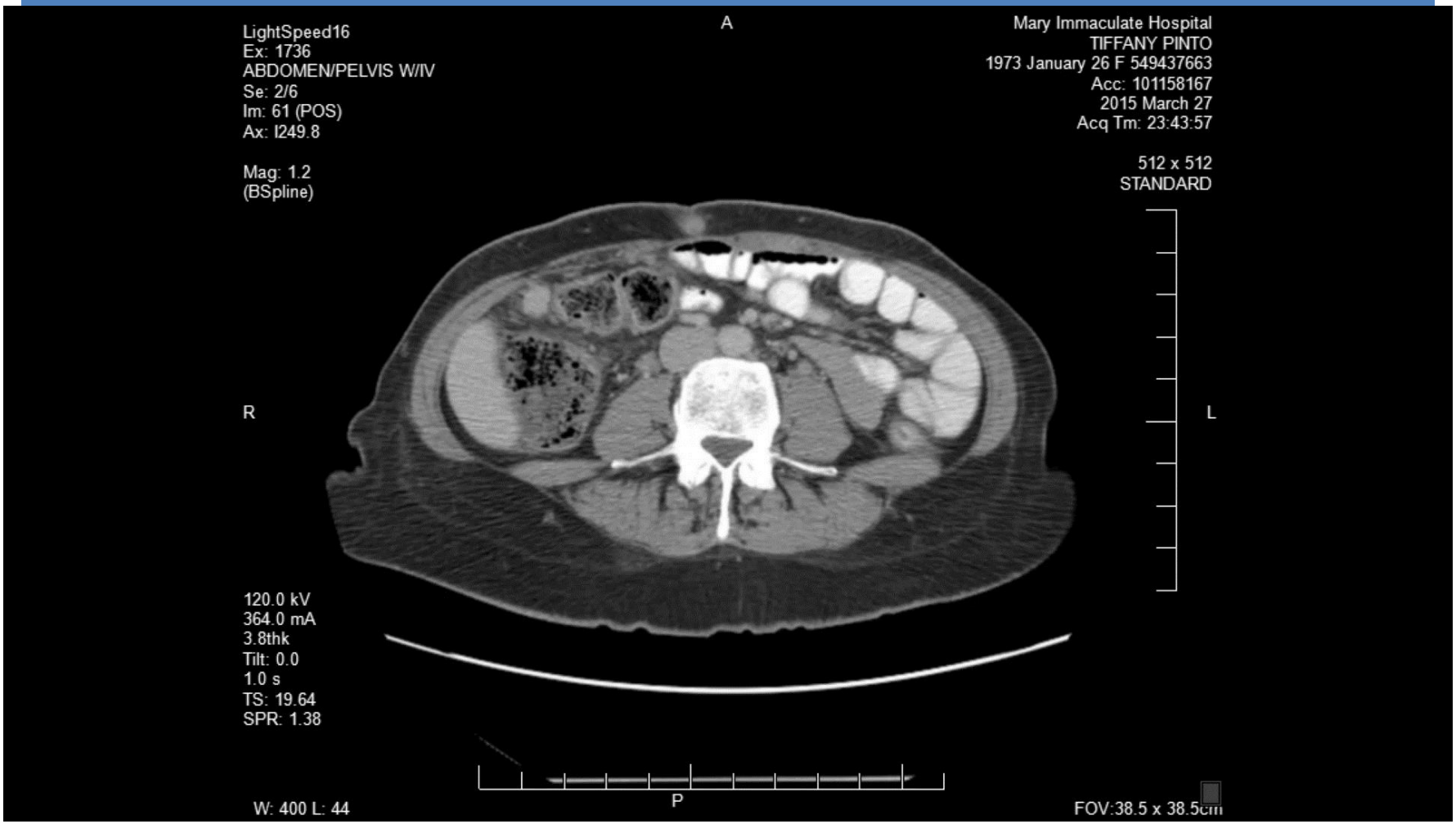
- My client, the IR, had the 3 Cs:
  - **Caring, Competent, Compassionate**

Case #2: RLQ pain in 45 year-old woman

Facts:

- 45 year-old woman in ER at 11 pm Sunday, 3/27/15
  - c/o: Right lower quadrant pain, nausea, fullness, subjective fever.
- Abdominal-pelvic CT done
- Indication for study: " RLQ abd pain, Prior splenectomy, cholecystectomy, gastric sleeve surgery."
- Patient is admitted for observation

Abdominal-pelvic CT at issue



The radiologist's read

Impression: "Acute colitis involving proximal ascending colon above level of ileocecal valve, with medially located possible prominent diverticulum, differential diagnosis including acute diverticulitis. Nonvisualization appendix with no inflammatory changes surrounding cecum. Very small right pelvic cul-de-sac ascites.

- GE evaluates patient in hospital the next day.
- Patient discharged on Day 3, instructed to f/u with PCP
- PCP does not order any further work-up
- Patient's symptoms resolve in a matter of weeks

Subsequent course

- 12 months later, pt returns to ER w/ RLQ pain
- Abdominal CT done
- “findings highly suspicious for colon carcinoma involving the proximal ascending colon just beyond the ileocecal valve with suspected regional nodal metastases and hepatic metastases.”
- Diagnosed with Stage IV colon cancer
- Surgery and chemotherapy
- July 2018 - patient passes away, leaving husband and two children

Plaintiff's Radiology Experts

- Defendant Radiologist was negligent by not suspecting cancer
  - Admitted CT showed no polyp or mass
  - Admitted CT showed no narrowing of the lumen
  - Admitted CT showed no focal colon wall thickening

- Defendant Radiologist should have recommended colonoscopy

Defense Experts

- Radiologist correctly perceived the abnormalities in and adjacent to the ascending colon
- He correctly interpreted the abnormalities to be indicative of an inflammatory process: acute colitis and diverticulitis.
- Abnormalities were not indicative of cancer and standard of care did not require him to suspect cancer or recommend colonoscopy.

Significant pericolonic stranding, lack of a mass, and reactive lymph nodes point to an inflammatory process

Goes to Trial

- Highly emotional dynamic
  - Plaintiff in courtroom - emaciated
- Radiologist testified well
- Plaintiff & family very likeable
- Lots of tears (Jury, Plaintiff, and Court Clerk)

Takeaways

- If you have focal or short segmental colitis that looks in any way unusual from “run of the mill” diverticulitis → recommend follow up colonoscopy – especially if you see any nearby peri colonic lymph nodes, no matter how small

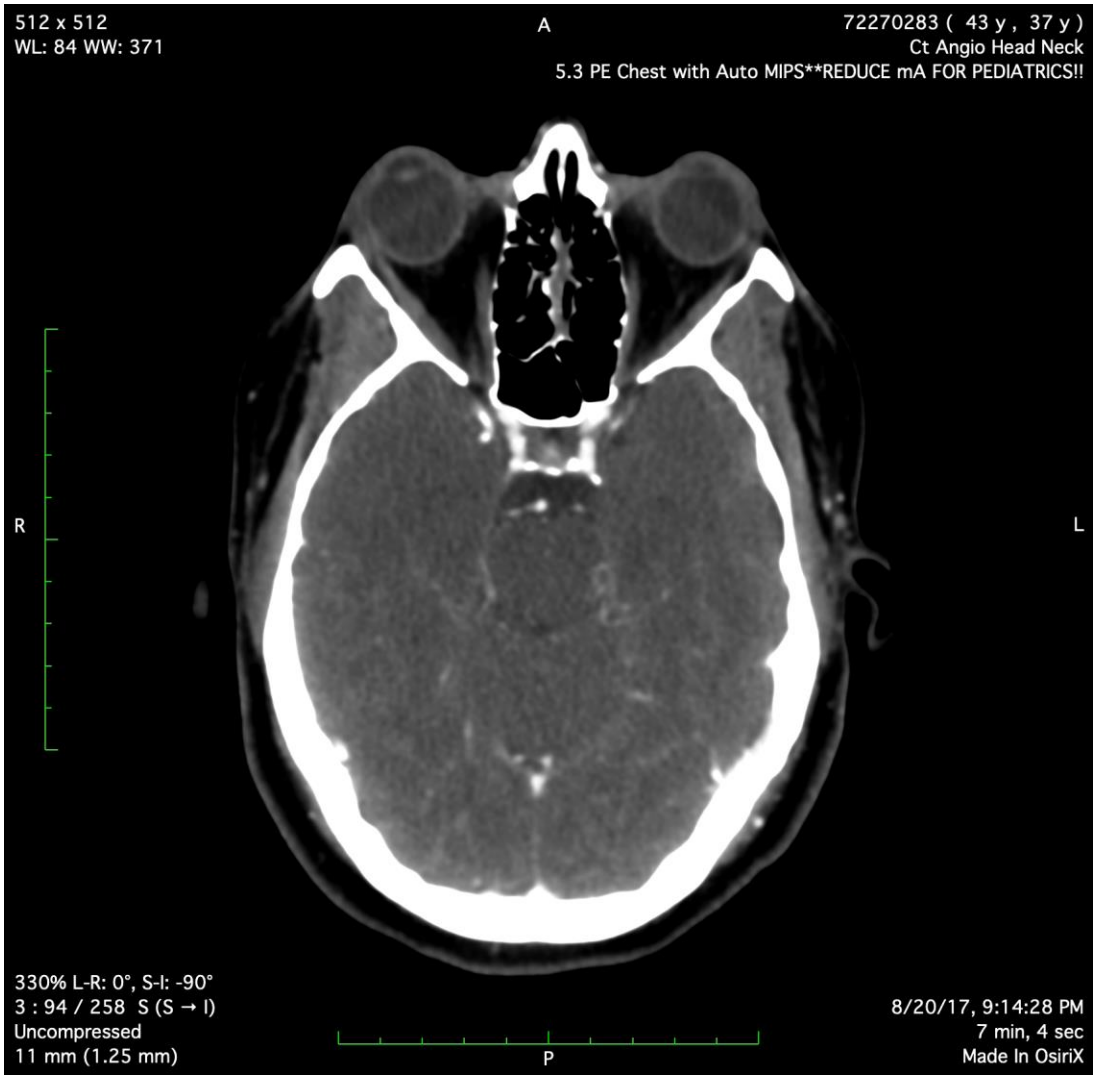
- Any nodes…any eccentric wall thickening…unusual looking diverticula should prompt recommendation for follow up colonoscopy as we saw how cancer can mimic benign diverticulitis

Case #3: Misread/Miscommunication About Basilar Artery Thrombosis

Facts:

- Woman (34) new onset altered mental status dizziness, nausea & headache goes to ER. Code Stroke.
- No focal deficits. Negative CT of head, negative LP, sent for CTA of head/neck.
- Prelim read of CTA negative by general-abdominal radiologist is negative
- Patient's symptoms abate and discharged home.
- Overread 17 hours later show occlusion in basilar artery.
- Radiologist calls ED (who ordered study) and ED doc says "patient has been transferred;"
- In fact, patient was home and no one called her.
- She stroked 8 hours later; permanent right sided motor deficits.

The study in question



Plaintiff's Radiology Experts

- Radiologists were negligent for (1) missing the lesion initially and (2) not ensuring that patient received information after overread.
  - If abdominal/general radiologist is going to read CTAs of the head for patients with possible stroke, needs to know how.
  - Systems error: Cannot wait for 17 hours after prelim read for overread if initial radiologist lacks expertise.
  - Need to ensure that patient gets time sensitive info re basilar artery thrombosis.

Defendants' Experts

- Conceded that study was misread initially, but argued that read properly before patient suffered permanent injury.
- Argued that emergency physician not overreading IR must determine patient disposition and get patient back to stroke center.
- Experts for emergency physician said radiologists gave the bad initial info, and therefore had to get corrected info to the patient.

Takeaways

Build good systems.

Communicate clearly.

When the condition is highly time sensitive, more urgency and caution are required.

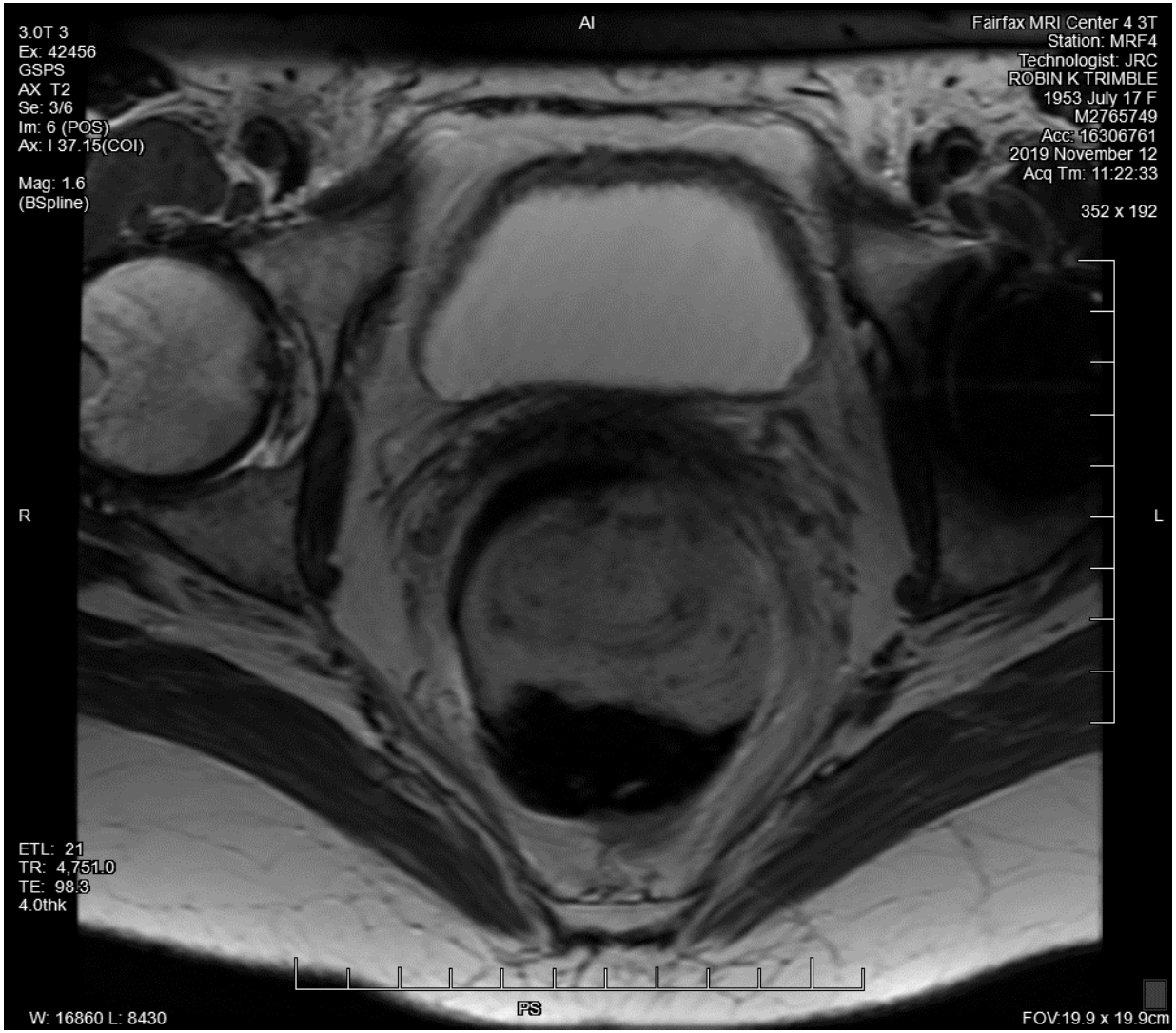
Case #4: Pelvic MRI with dynamic protocol

- 68 yr old woman has pelvic MRI w/ dynamic protocol in Nov. 2019.
  - No complaints of hip pain
- **History**: Interval pelvic floor surgery 10/18 with incomplete evacuation & leakage. Bloating fullness and weight gain.
- Unique study: Is there incomplete evacuation?
  - “I look at the pelvic floor to assess whether pt can defecate”. Focusing on coronal images (36 in total)
- Radiologist correctly assesses pelvic floor function

Subsequent course

- June 2020 – patient c/o persistent right hip pain
- Undergoes hip MRI
  - It shows right femoral head lesion
- Patient sues radiologist for missing the lesion during the pelvic MRI w/ dynamic protocol
- Alleges delay in dx resulted in a fx & need for a partial hip replacement, ongoing pain.

The study in question



Plaintiff's Radiology experts

- Radiologist was negligent by not seeing and reporting this "incidental finding."
- **They admitted**:
  - They had never read this type of MRI
  - Its purpose was not to identify metastatic bony lesions.
  - It differs from a conventional pelvic MRI in many important respects.
  - Lesion is not visible at all on the "dynamic images."
  - Only partially visible on a few images
- **DO YOU THINK THIS CASE WAS TRIED?**

Takeaways

- Review all of the images
  - Not just the ones that answer the question asked
- Be wary of “satisfaction of search”
- Any others?

Case #5: Sciatic Nerve Injury During Cryoablation

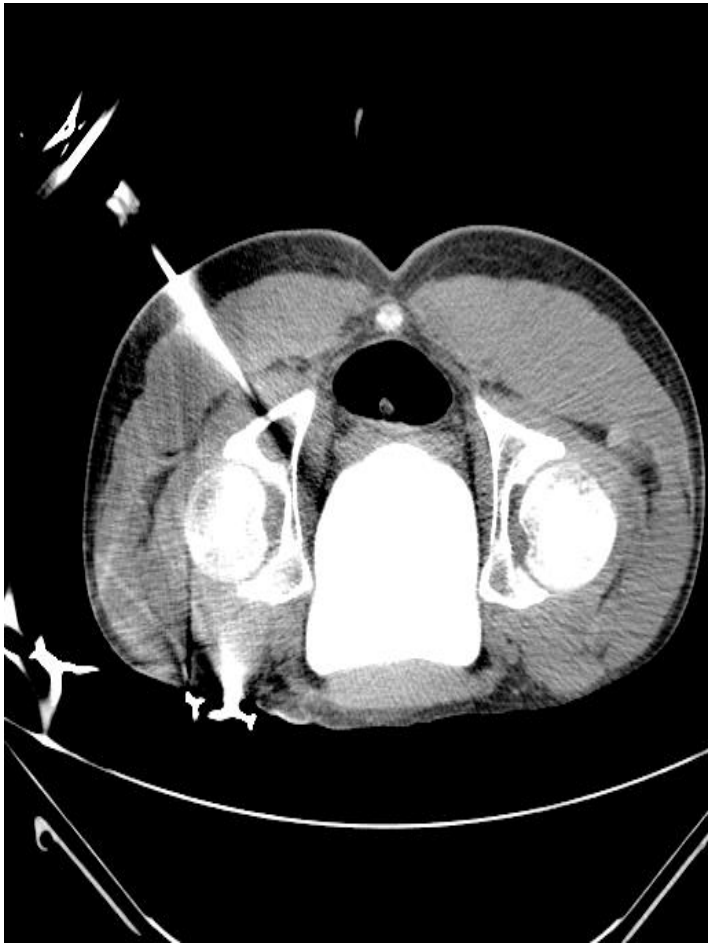
- 16 y.o. male; good student; good athlete; active & healthy.
- Develops tightness in hamstrings followed by groin pain.
- CT and MRI of pelvis/hips reveals aneurysmal bone cyst in ischium and inferior acetabulum.
- Referred to orthopedic oncologist for treatment at large tertiary care center.
- Ortho oncologist seeks input from interventional radiologists for biopsy and consult on treatment options.

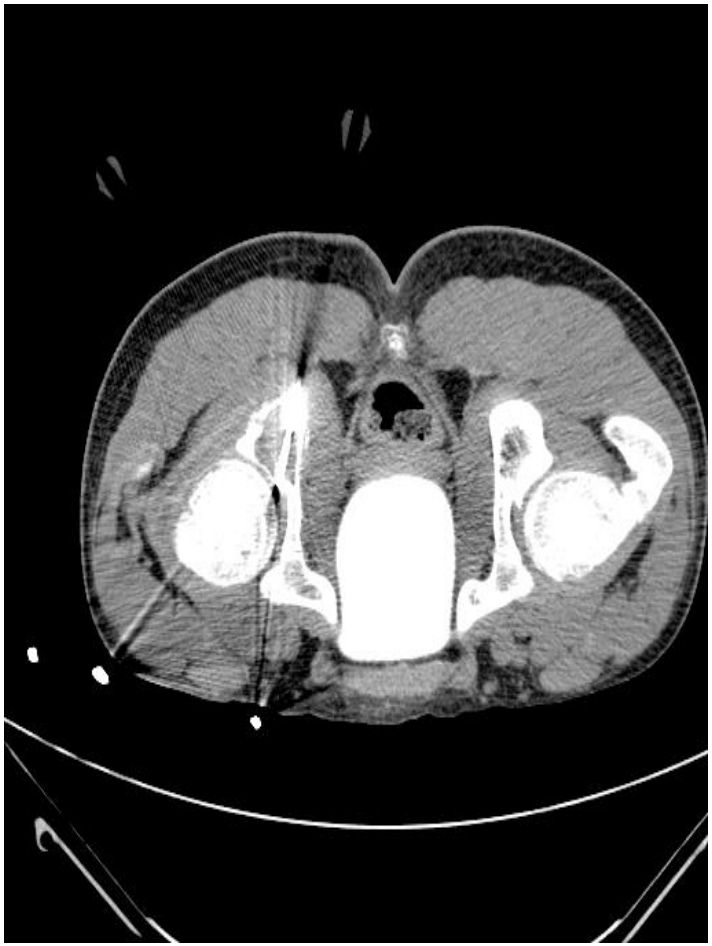
Clinical History Cont'd

- CT-guided biopsy scheduled and performed; diagnosis of bone cyst confirmed
- In same procedure, interventional radiologists decide to perform cryoablation of the lesion.
- Two interventionalists are involved in the procedure; neither interventionalist had personally performed cryoablation of a lesion in this anatomical area.

The Study/Procedure

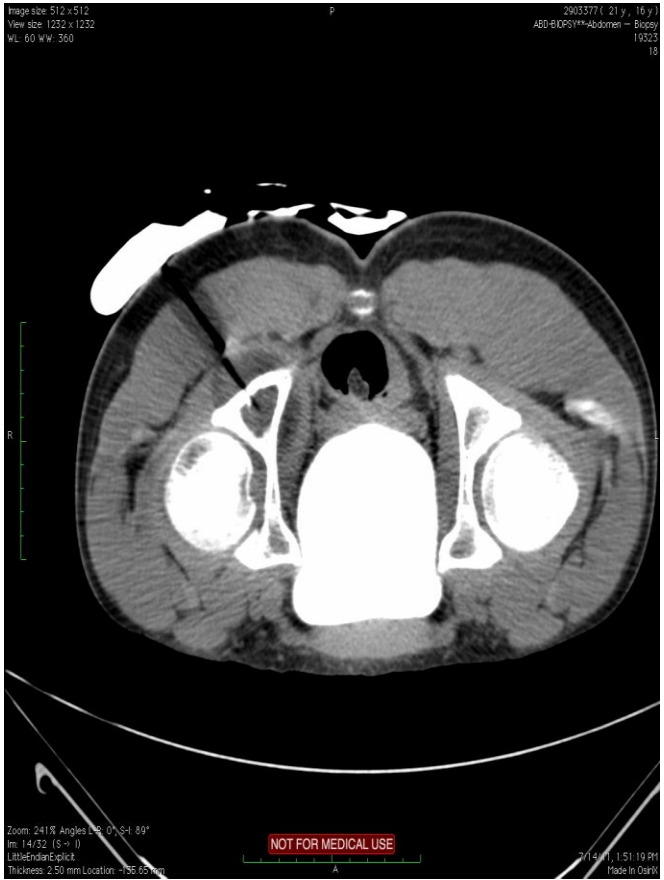
1:16 p.m. – Last Images Before Freezing Begins

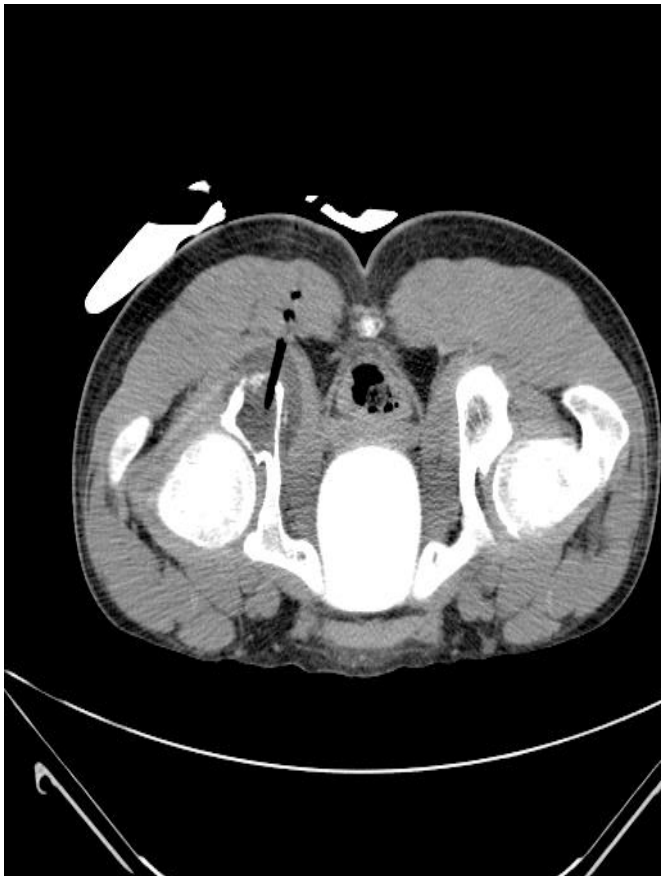




The Study/Procedure

1:51 p.m. – Next Set of Images 35 mins later; Cryo complete; no monitoring of ice ball

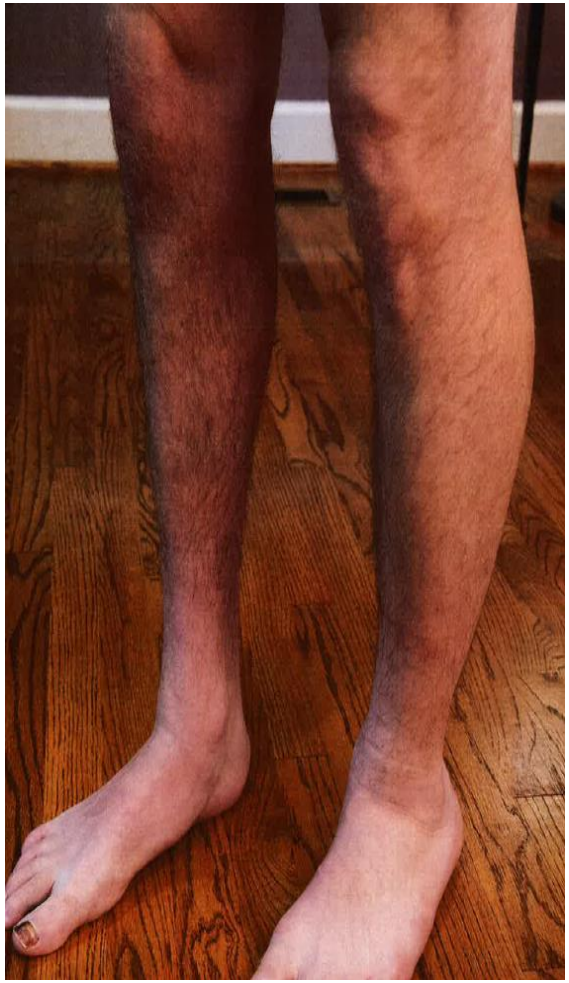


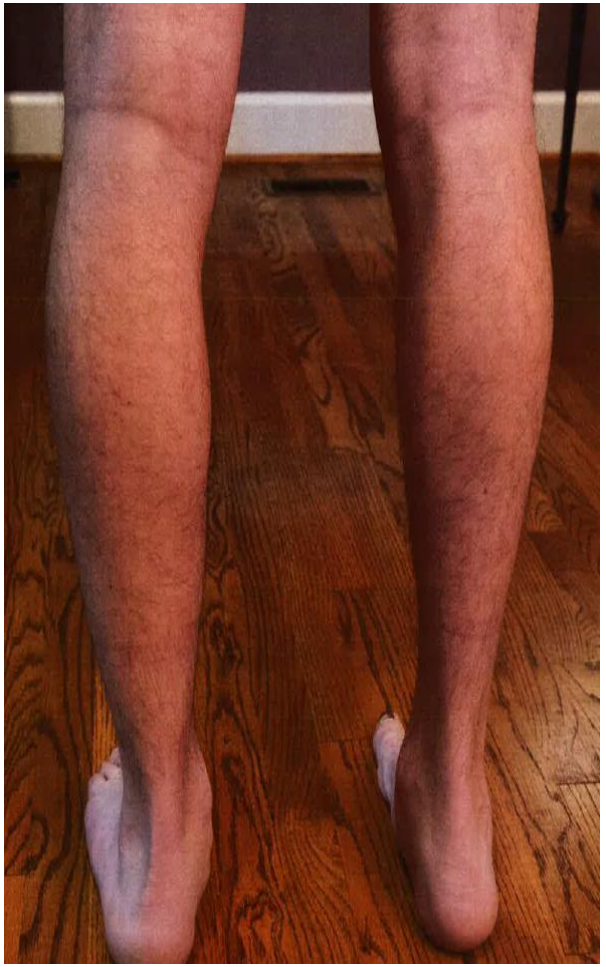


Post-Procedure Clinical History

- Patient wakes up from procedure with severe pain, motor deficits and sensory deficits in distribution of the sciatic nerve
- Interventionalists tell family that the pain/symptoms are likely from intra-procedure positioning and refer for conservative management.
- Two months later: Patient referred to Johns Hopkins by family friend; sciatic nerve injury diagnosed and nerve graft performed.
- 30 months later: Permanent motor and sensory dysfunction in right lower extremity.
- Patient's parents seek legal counsel

3 years later: leg atrophy





Experts

Plaintiff:

- Monitor the iceball.
- If patient has serious new SX after procedure, investigate!

Defendant:

- Could not find expert to defend this case.

Takeaways

Don’t do procedures you’re not trained to do unless you’re with someone who is trained.

When something goes wrong, tell the patient.

What makes a case defensible?

1. Competent, compassionate, and trustworthy client
2. Reasonable exercise of clinical judgment
3. Awareness - important components of history/presentation appreciated; no clear miss on imaging
4. Individualized patient care
5. Team approach + coordination of care

What Makes A Good Plaintiff's Case?

1. "Holy &#!*" factor
2. Severe injury
3. Were proper steps taken to prevent injury?
4. Were Proper steps taken to minimize injury?
5. Was the hospital/doctor perceived as honest?

"DOs" and "DON'Ts"

DO:

- Practice good patient-focused medicine – are you treating this patient the way you'd want your loved ones treated?
- Document everything you can (within reason)– indications, informed consent disclosures, steps taken to avoid complications, idiosyncrasies of the patient, communications with other providers, and patient instructions
  - **Especially important for new devices/uses/off-label uses!!!**
- Share information – in the event of complications, explain them to the patient
- Be coachable – follow your lawyer's advice.
- Show empathy – Apologize for the situation (w/o admitting fault)

“DOs” and “DON’Ts”

DON’T:

- Don’t Go AWOL – Answer patient questions; show that you care; be responsive. This is all the more important in the event of a complication.
- Don’t admit fault – expressions of sympathy are (*generally) not admissible, but admissions of fault are.
  - Good: “I am sorry this happened to you” or “I am sorry for your loss”
  - Not Good: “I am sorry this happened, I never should have.....” or “I am sorry that I hurt you”
- Don’t blame others for your complications.
- Never alter the medical record - you will lose credibility (and possibly insurance coverage). File an addendum if necessary.