WHEN A COMMON COMPLAINT ISN'T SO COMMON:
A CASE OF PERSISTENT KNEE PAIN

OBJECTIVES

By the end of the presentation, participants will be able to:

- Apply a structured approach to evaluating persistent knee pain and swelling that does not respond to standard management.
- Identify clinical "red flags" in musculoskeletal presentations that should prompt further investigation or reconsideration of the diagnosis.
- Incorporate a patient's remote treatment history, including prior radiation exposure, into diagnostic decision-making.

DISCLOSURES

- I have no conflicts of interest to disclose

CASE PRESENTATION – WJ

- CC: L knee pain
- PMHx:
  - 2022 - Breast lesion/mass favoured to be hemangioma – ongoing US surveillance
  - BPH
  - T5-T9 spinal fixation for # from fall off roof 2023
  - 2018 R Orchiectomy for testicular pain – benign pathology
  - 2013 Previous cryptococcal lung infection on long term fluconazole (stopped)
  - Non-Hodgkins Lymphoma 2000 – remission
  - Tinnitus

CASE PRESENTATION - WJ

- Meds: none
- Social hx: married, self employed as contractor, never smoker, 3 EtOH per week

CASE – WJ – MARCH 26TH 2025

Subjective:

- “presents with sore L knee x 1 week 'everyone is telling me it's gout’
- prior to that, has had about 4 months "I think it's sciatic pain" burning pain from bum to L foot, not severe 'an annoyance’
- no weakness, no paresthesias, no back pain, no cauda equina symptoms
- not feeling that today, but now ++ bothered by L knee
- hurts to move, throbs at rest
- no fever/chills, no trauma
- + swelling
- has tried Aleve, Tylenol - no effect
- no known hx same”

CASE PRESENTATION

Objective:

- Vitals normal, afebrile
- appears uncomfortable due to pain, moving slowly, can ambulate
- L knee + effusion, tender to touch, no redness, very slightly warm
- can flex > 90 but painful, can fully extend
- unable to tolerate special tests
- neg SLR
- power/sensation/reflexes N distally, N pedal pulses
- ankle/foot joints normal
- + varicosities to lower leg

CASE PRESENTATION

Assessment/Plan:

1. L knee pain and swelling - favour gout

- ddx = OA, meniscus tear, not c/w septic joint
- rx colchicine, f/u if not improving, uric acid level when resolved

2. L leg pain - sciatica

- PT note for sciatica (has benefits), reviewed red flags

3. given preventive labs on same req - pt asks for testosterone, discusses fatigue

APRIL 2ND, 2025

- 1 week later, books back for L knee pain with NP
- “Came into clinic for left knee swelling/pain
- symptoms started a few weeks ago just in left knee with swelling , saw Dr. Love March 26th for possible gout and was treated with Colchicine - no effect as per patient
- urate levels with recent labs within normal range no left shift no signs of infection
- denies fever, chills, malaise, constant pain 7-8/10
- swelling as gotten worse since 3 days ago from thigh to below knee
- difficulty weight bearing.
- noticed veins in leg proximal to calf were swollen " popping"
- denies any redness or "hot to touch"
- denies chest pain or SOB.”

CASE PRESENTATION – APRIL 2ND

Objective:

- Vitals N other than BP up, afebrile
- “Left Leg- pain with dorsiflexion and plantar flexion. 2 cm difference from Left to right (Thigh to below knee)
- tenderness on palpation of thigh to below the knee. no redness noted, warmth throughout but not hot to touch. Pain with any movement passive or active. Difficulty weight baring due to pain."

CASE PRESENTATION – APRIL 2ND

A/P:

Rule out DVT

- "reassurance provided that there were no signs of infection but that we need to rule out a clot in the leg. (bp is elevated likely due to pain)
- ordered short course of naproxen for inflammation and/or pain to use routinely and then as needed. discussed side effects."
- Outpt US ordered

2 DAYS LATER (APRIL 4TH)

- US back – no DVT
- + Baker's cyst
- NP phones pt to notify of results – pain decreased with naproxen but still swollen
- Advised to f/u if not improving

3 DAYS LATER (APRIL 7TH)

- Books back in office – Dr. Erven
  - “reviewed previous notes, ongoing ++ left knee pain
  - 'can't work' 'can hardly walk'
  - has started naproxen, thinks some help for pain but still ++ swelling
  - no fever/n/v
  - no trauma
  - thinks buttock to foot pain improved (thought ? sciatica)”

APRIL 7TH

Objective:

- LLE distal CNVasc N
- Hip N, ankle N
- Gross left knee effusion, ++ suprapatellar and prepatellar likely bursal collection
- Mild warmth
- No erythema/induration
- ++ pain w AROM
- Noted prev NP notes but does NOT have pain w PROM on my exam
- Extensor mech intact
- Endpoints to ACL/PCL/MCL/LCL tho limited special testing d/t pain

APRIL 7TH

A/P: Knee pain

1) not c/w septic joint
2) possible gout not responsive to initial therapy, possible inflammatory
3) ideally would get aspirate for dx purposes: in theory can do in office but w/o lab present do not have correct tubes for sample: I am in ER tomorrow 3-10: pt agreeable to attend to see self for joint aspirate: plan for cell counts/crystals tmo: will send cxx and if neg and ongoing symptoms could consider CS
4) possible underlying occult injury: will start w XRay: will order at ER tmo

APRIL 8TH

- ER visit
- Normal vitals
- X-ray done
- Joint aspiration done – 20 cc straw coloured fluid

Microbiology

Procedure: MAHC Fluid Gram Stain
Source: Joint Fl
Body Site:
Free Text Source:

Collected: 2025-Apr-08 16:43:00
Started: 2025-Apr-08 22:40:41
Accession: 25-098-002379

GRAM STAIN
Verified Date/Time: 2025-Apr-08 23:13:10
White Blood Cells present
No organisms seen.
*

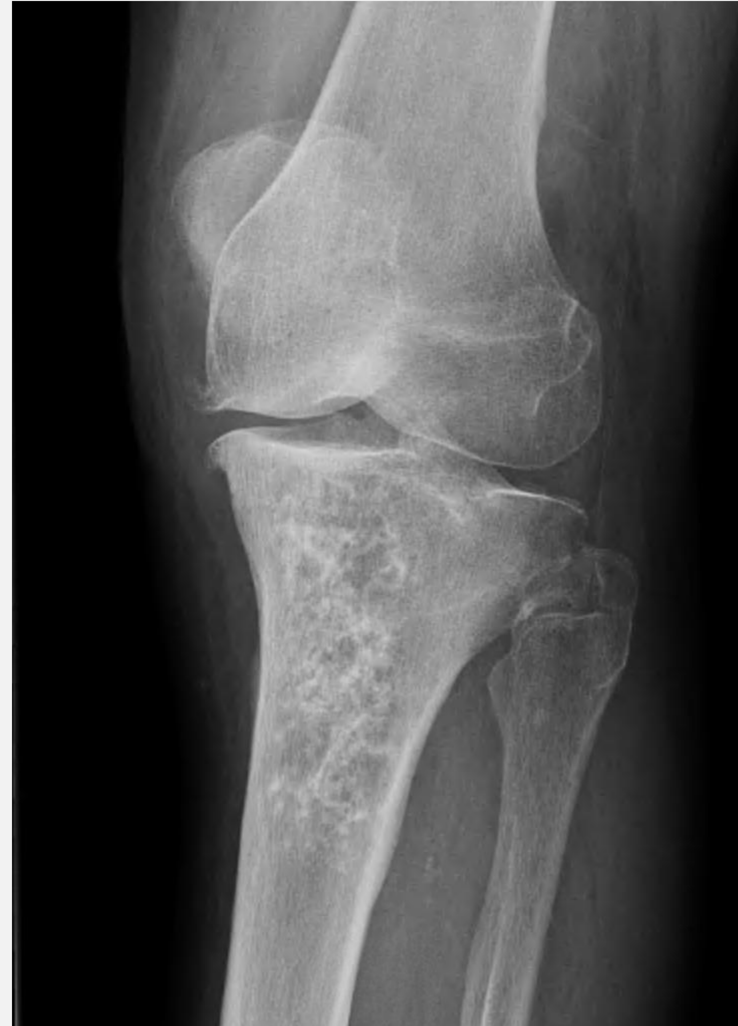
Culture Comment:
Phoned to and read back by Dr. Erven at 2025-Apr-08 23:00 by RG
*

Preliminary gram stain performed at Muskoka Algonquin Healthcare-Huntsville Site.
Culture sent to Shared Hospital Labs (Toronto).
Refer to specimen 25-098-002088 for gram stain confirmation, further workup and/or any corrections/amendments.

Body Fluids

Procedure	Result	Units	Reference Range	Collected Date/Time	Received Date/Time
Body Fluid Type	Synovial fluid			2025-Apr-08 16:43:00	2025-Apr-08 16:53:00
Appearance Body Fluid	Bloody/cloudy			2025-Apr-08 16:43:00	2025-Apr-08 16:53:00
RBC Count Body Fluid	35518.0	x10E6/L		2025-Apr-08 16:43:00	2025-Apr-08 16:53:00
Total Nucleated Cell Count Body Fluid	**14989.0 H**	x10E6/L	[0.0-200.0]	2025-Apr-08 16:43:00	2025-Apr-08 16:53:00
Neutrophils Body Fluid (%)	**89 H**	%	[0-25]	2025-Apr-08 16:43:00	2025-Apr-08 16:53:00
Lymphocyte Body Fluid (%)	6	%	[0-70]	2025-Apr-08 16:43:00	2025-Apr-08 16:53:00
Monocyte Body Fluid (%)	3	%		2025-Apr-08 16:43:00	2025-Apr-08 16:53:00
Macrophage Body Fluid (%)	2	%		2025-Apr-08 16:43:00	2025-Apr-08 16:53:00
Synovial Fluid Crystals	Absent			2025-Apr-08 16:43:00	2025-Apr-08 16:53:00

APRIL 8TH, 2026



APRIL 8TH

- X-ray report:
  - “Moderate joint effusion. No acute fracture or malalignment. Tricompartmental OA changes greated at the medial compartment, moderate.
  - An ill defined intramedullary chondroid lesion is seen within the proximal tibial metaphysis measuring approximately 8.3 x 4.4 x 3.0 cm could reflect an enchondroma, versus infarct or low grade chondrosarcoma. Further evaluation with MRI is recommended”

CASE - WJ

- More about that lymphoma history?
  - Diagnosed w/ low grade follicular lymphoma in 2000 – treated w/ Chlorambucil 2000
  - Rituxan with CVP – significant reactions, stopped
  - CVP x 3 suboptimal response 2008
  - CHOP x 6 November 2009
  - Radiation to L groin 2010
  - Progressive disease with marrow involvement
  - Fludarabine x 2 – progressive disease

CASE - WJ

- Compassionate bendamustine - completed 7 cycles Jan 2012
- Radiation to R tibia and R pelvis – 2013
- Radiation to L tibia – 2014
- Osteomyelitis to bilat tibias requiring biopsies/admission – 2015
- Recurrence in L forearm – 2016, treated with radiation and more chemo (gemcitabine)
- Remission after
- Last appt Sept 2020 by phone – lost to f/u

FOLLICULAR LYMPHOMA

- Second leading NHL diagnosis in the US and Europe
- Most common presentation = new, painless lymphadenopathy
- Most do NOT have B-symptoms
- 3%/year transform to DLBCL, usually heralded by rapid growth of lymph nodes and development of systemic symptoms
- Highly sensitive to chemo and radiation but almost always recurs
- First line = rituximab and bendamustine
- Asymptomatic patients should be observed as early treatment does not improve outcomes

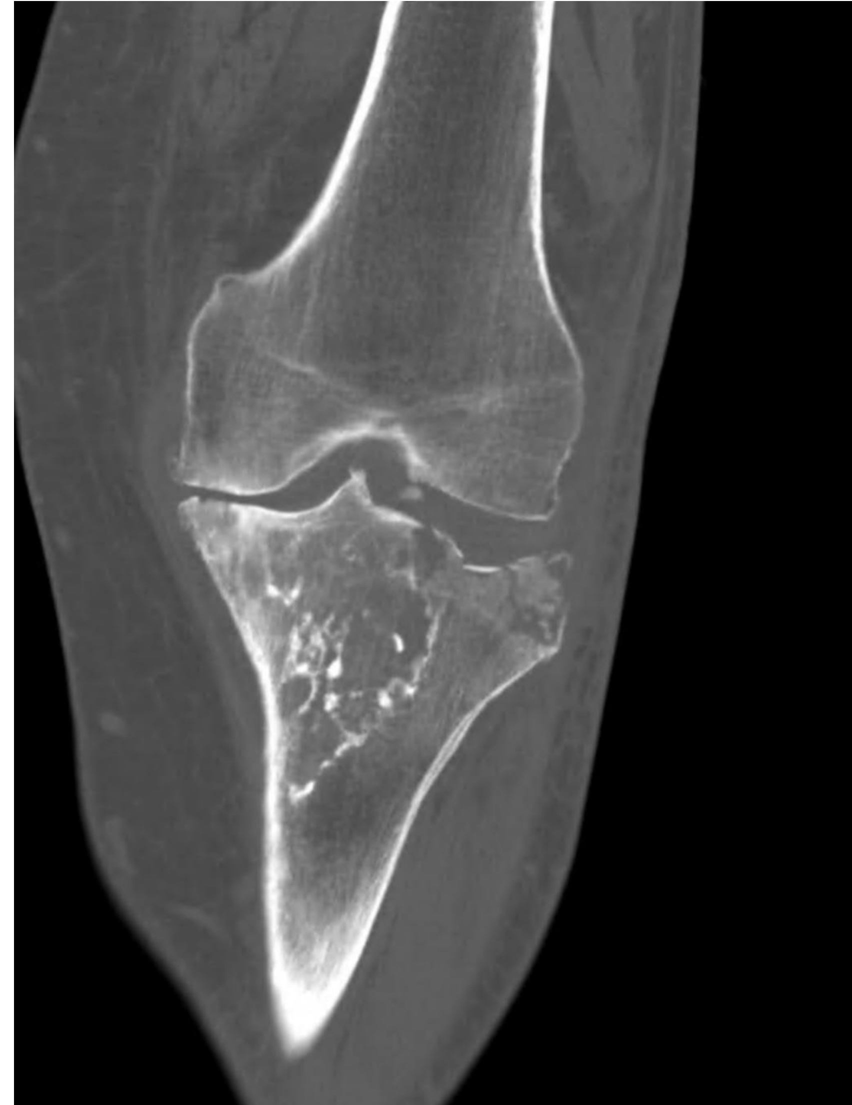
CASE - WJ

- Did have x-ray for L knee pain in 2018 “mixed lucency and sclerosis in the proximal tibia” and comments that x-ray was normal in 2014
- Bone scan at that time showed no activity in the area
- Dr. Erven ? Old changes vs new, if not new was planning cortisone injection
- Dr Erven rev’d w/ radiologist – could be old, can do CT given MRI wait times though MRI would be definitive

APRIL 28TH

- Returns with ++ knee pain, still unable to work, difficulty walking
- Had attended ER in Midland April 22nd hoping for urgent MRI
- CT organized for next day

APRIL 29TH - CT



CT - ? BONE INFARCT

IMPRESSION:

1. Large lucency with calcifications in the proximal tibia, most suggestive of a large bone infarct. This is less likely to represent low-grade chondrosarcoma. There is extension of the lucency to the tibial articular surface.
2. Comminuted minimally displaced or nondisplaced fracture of the lateral tibial plateau
3. Moderately severe degenerative joint disease involving the medial compartment of the left knee.

Please note that I contacted the patient by telephone in order to inform him as soon as the fracture was identified on CT, and recommended an emergency room visit to have the fracture assessed and treated. The patient was contacted at approximately 8:45 PM on May 1, 2025.

Referred to Ortho OSMH

MAY 7TH – DR MILLER

- Dr Miller agrees to see in fracture clinic and take on further work up
- DDx:
  - Old radiation changes
  - New neoplastic process/chondrosarcoma
  - Lower risk infection
- Placed in Zimmer splint
- Urgent MRI ordered

MAY 16TH MRI

- Significant focal abnormality in the proximal tibia. Differential would include neoplasm. Superimposed avascular necrosis is also a consideration. Suspected pathologic lateral tibial plateau fracture. Degenerative changes of the knee. Moderate effusion.

MAY 23RD – DR. TSOI MT SINAI

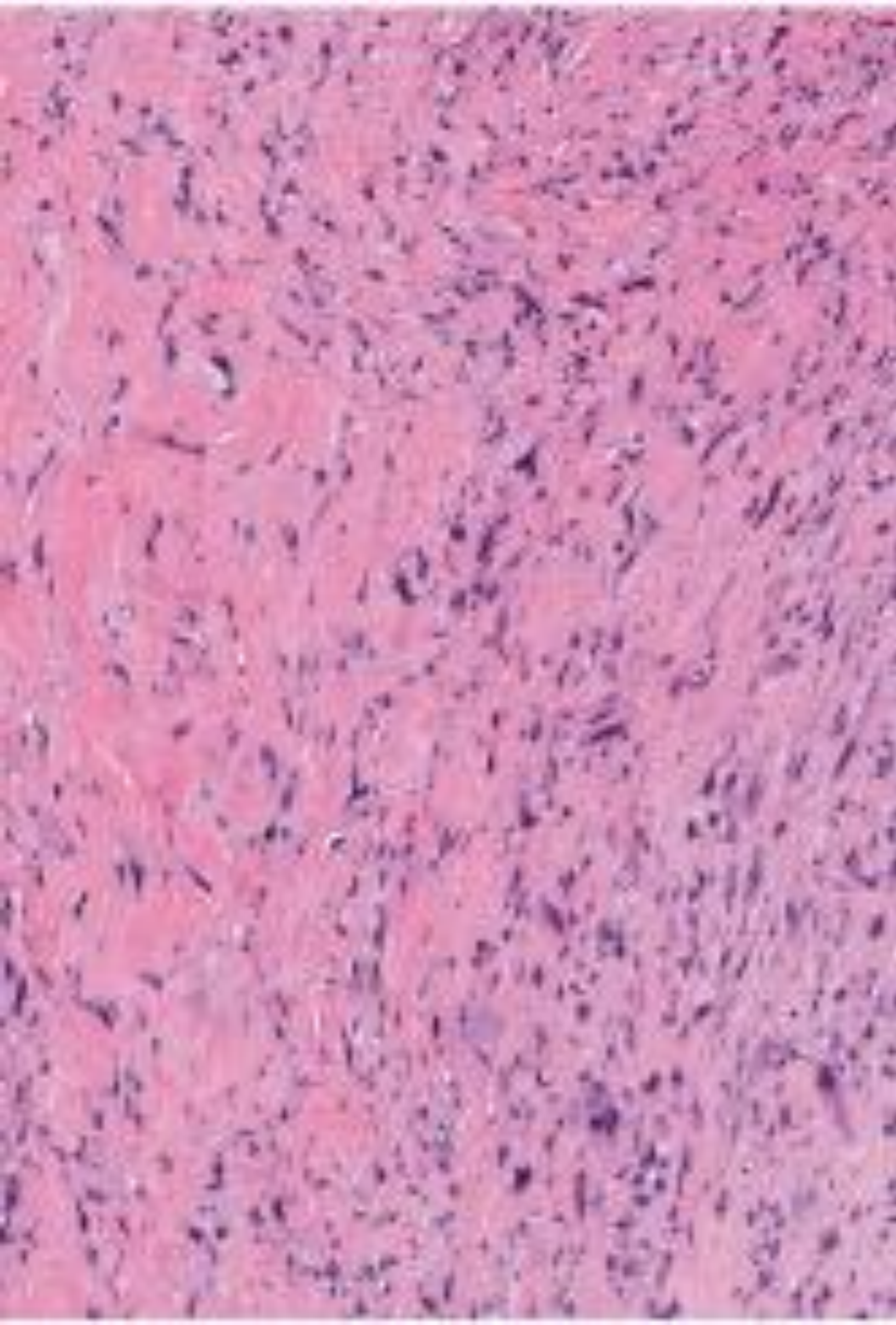
- "Overall, W is presenting here with what is likely a pathologic fracture with an underlying bony malignancy. The etiology of this malignancy is still unclear."
- DDx:
  - Post radiation change
  - Prednisone complication
  - Radiation-induced osteosarcoma
  - Secondary osteosarcoma due to osteonecrosis/bone infarcts
  - Lymphoma recurrence (less likely)
  - Extension of bone infarct
- Given wide ddx plans bone bx
- Having significant pain – rx'ed opioids
- Pt c/o night sweats at that visit

JUNE 2ND

- Bone biopsy
- CT chest
  - "There are multiple new solid nodules in both lungs, highly concerning for metastatic disease."
- Connected with Sinai palliative care team due to severe pain

JUNE 16TH - ONCOLOGY

- "New diagnosis of a metastatic radiation-associated undifferentiated pleomorphic sarcoma of his left proximal tibia to lung."
- Plan for operative intervention on knee first for pain control
- Chemo after



RADIATION INDUCED SARCOMAS

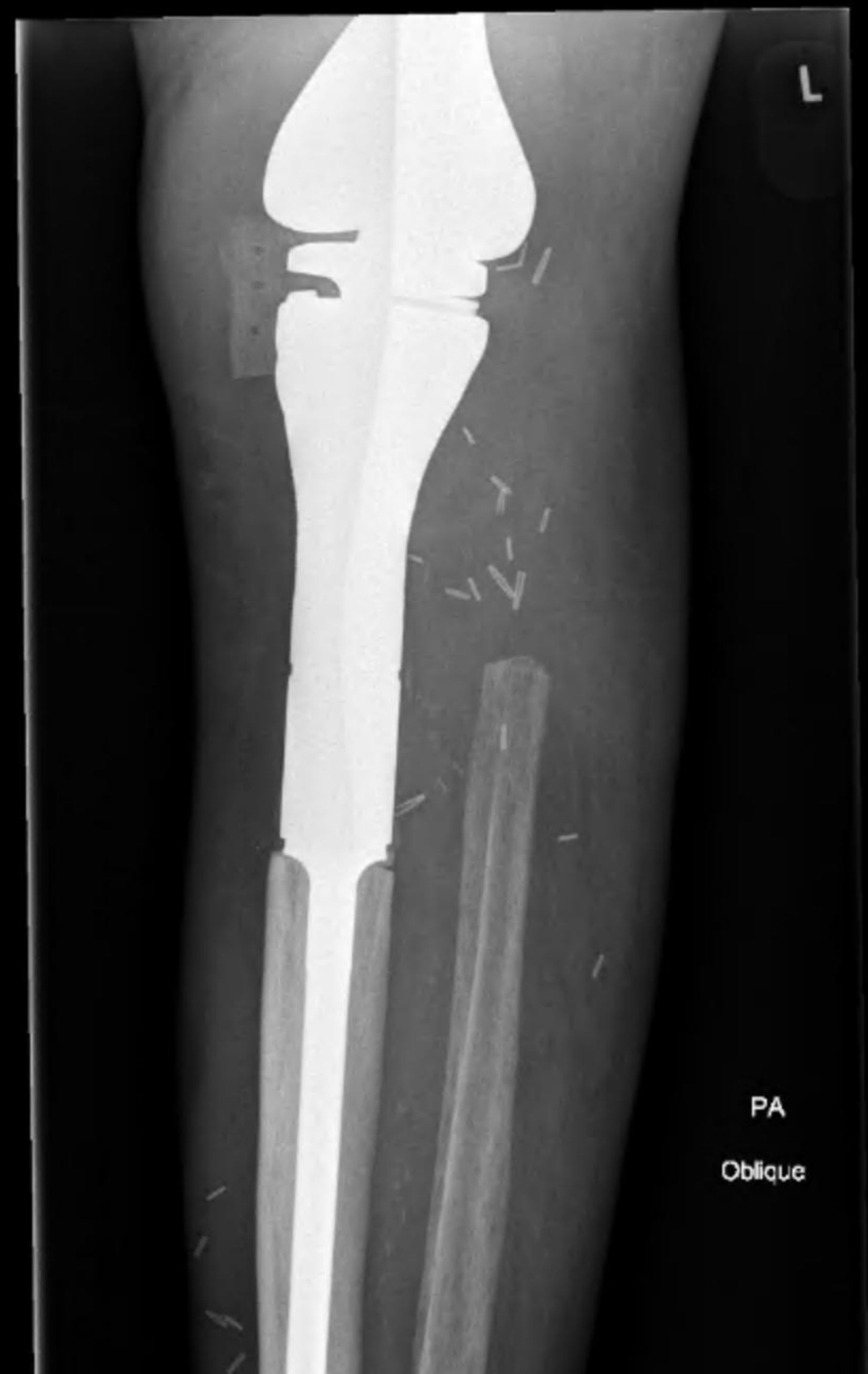
- Rare diseases with poor prognoses
- Occur in <1% of patients who receive radiation therapy, but account for 5% of all sarcomas
- Usually high-grade and more aggressive than de novo sarcomas
- Mean duration after radiotherapy = 15 years, but can be as early as a few years post treatment
- 5 year survival rate 45%
- Most common subtype = undifferentiated pleomorphic sarcoma
- Most common location is the trunk (59%), followed by extremities (21%) and pelvis (11%)
- Mainstay of treatment = surgery, one systematic review showed < 1/3rd received chemo or radiation

CASE – COURSE AT MT SINAI

- June 20th Complex surgery L femur/L tibia
- En bloc resection and endoprosthetic reconstruction
- Admitted post op to rehab facility
- Discharged home July 27th
- Started chemo Aug 5th (limited by heavy pre-treatment)
- Ortho Oct 2025 – failure of extensor mechanism
- Ended chemo Nov 2025 w/ 8 week f/u planned

JAN 7TH

- Presents to office with 'lump in throat' and difficulty walking
- Sudden pain to L leg and inability to ambulate
- Urgent CT – lymphadenopathy in neck and supraclavicular, cannot rule out lymphoproliferative disease
- X-ray no complication seen
- CT shows possible patellar fracture but no recurrence of sarcoma
- Patient deciding whether he wants any f/u



LEARNING POINTS

- Ask about night pain, B symptoms in unresolving MSK complaints
- Keep cancer hx visible at top of EMR CPP
- Follicular lymphomas relapse and can relapse anywhere
- Consider hx of radiation to any field with a new lump or pain
- Early x-ray in these cases
- Long term complications of cancer treatment happen and will happen more as patients live longer with treatments

REFERENCES

1. Jasobson CA, Longo DL. Non-Hodgkin's Lymphoma. In: Longo DL, Fauci AS, Kasper DL, Hasuer SL, Jameson J, Loscalzo J, Holland SM, Langford CA eds. Harrison's Principles of Internal Medicine, 22nd Edition. McGraw Hill; 2025. Accessed January 31, 2025. https://accessmedicine-mhmedical-com.proy.lib.nosm.ca/content.aspx?bookid=3541§ioned=293335405.
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