AQ-IQ IRF PRO LAB

Case Study 11, Session 5

DRG: 541 Osteomyelitis w/o CC/MCC

Admitting Diagnosis:

M46.26 Osteomyelitis of vertebra, lumbar region

Principal Diagnosis:
M46.26 Osteomyelitis of vertebra, lumbar region (DRG)
Secondary Diagnoses:
D64.9 Anemia, unspecified
I10 Essential (primary) hypertension
M75.102 Unsp rotator-cuff tear/rupture of left shoulder, not trauma
M54.5 Low back pain
R20.9 Unspecified disturbances of skin sensation
R25.2 Cramp and spasm
R53.1 Weakness
K21.9 Gastro-esophageal reflux disease without esophagitis
Z96.653 Presence of artificial knee joint, bilateral
Z92.3 Personal history of irradiation
Z98.89 Other specified postprocedural states
M62.838 Other muscle spasm
M19.90 Unspecified osteoarthritis, unspecified site
E78.5 Hyperlipidemia, unspecified
Z96.611 Presence of right artificial shoulder joint
M25.552 Pain in left hip
Z88.8 Allergy status to oth drug/meds/biol subst status
K59.09 Other constipation
T40.2X5A Adverse effect of other opioids, initial encounter

Pre-Admission Screening
IGC: 4.13
Etiology: Exploration of L4-L5 with foraminotomies bilateral sides L4-5 with removal of scar tissue and bony overgrowth due to osteomyelitis
Date of screening: 4/04/20
71-year-old male admitted for exploration of L4-L5 and foraminotomies bilateral sides with removal of scar tissue and bone overgrowth. Patient has been having increased pain and heaviness bilateral lower extremities after biopsy on 2/16 showed osteomyelitis. Running low grade fevers. Patient now having bilateral lower extremity muscle spasms, post op day 4. Patient had multiple cultures sent and wound cultures were pending, empirically started on IV vancomycin for his longstanding history of osteomyelitis at a two-week course.
PMH: long history of lumbar pain, non-insulin dependent diabetes, hypertension, hyperlipidemia, GERD, osteomyelitis in spine, left knee arthroplasty, right knee arthroplasty, ongoing chronic suppressive oral antibiotics, staphylococcus aeruginosa, prostate cancer with radiation, osteoarthritis, angina, lumbar aspiration

ADMISSION GG SCORE: 37

History and Physical
DATE OF SERVICE:

04/05/2020.

CHIEF COMPLAINT: Inability to care for self.

ETIOLOGIC DIAGNOSIS: Exploration of L4-L5 with foraminotomies bilaterally with removal of scar tissue and bony overgrowth due to osteomyelitis.

HISTORY OF PRESENT ILLNESS: Patient is a 71-year-old right-hand dominant male well known to me from a previous admission. He was admitted to our inpatient rehabilitation facility on 04/04/2020 for comprehensive orthopedic rehabilitation. Per chart review/ patient presented to [Hospital Name] on 03/19/2020 for exploration of L4-L5 and bilateral foraminotomies with removal of scar tissue and bony overgrowth by Dr. B_. Patient with postoperative diagnosis of foraminal narrowing of the lumbar spine with increasing low back pain and bilateral lower extremity weakness. Patient tolerated the procedure well with an estimated blood loss of 50 mL. Postoperative course significant for anemia/ immobility and acute-on-chronic back pain. Patient had multiple cultures sent and wound cultures were currently pending upon discharge. He was empirically started on IV vancomycin for his longstanding history of osteomyelitis with recommendations for short 2-week course and then continuation on all doxycycline and Levaquin therapy per infectious disease.

Patient reports during his inpatient stay at [Hospital Name] during physical therapy session bilateral knees had buckled. He had fallen to the ground with an intense left hip pain that was located in his inner groin. No further workup was done. He currently reports that his pain is not well controlled on current narcotic regimen. Denies any fevers/ chills or sweats. He was medically stabilized and deemed an appropriate candidate for comprehensive rehabilitation to address his recent gait dysfunction/ impairments in self-care/ balance/ transfers/ safety and limited endurance.

PAST MEDICAL HISTORY:
1. Longstanding history of lumbar back pain.
2. Acute-on-chronic back pain.
3. Non-insulin-dependent diabetes mellitus.
4. Hypertension.
5. Hyperlipidemia.
6. Gastroesophageal reflux disease.
7. Osteomyelitis of the lumbar spine.
8. Prostate cancer with radiation.
9. Osteoarthritis.
10. Angina.

PAST SURGICAL HISTORY:
1. Bilateral total knee arthroplasties.
2. Multiple lumbar surgeries for chronic low back pain.

ALLERGIES: BACLOFEN.

CURRENT MEDICATIONS: IV vancomycin, doxycycline, insulin lispro, metformin, metoprolol, gabapentin, amlodipine, fenofibrate, hydrochlorothiazide, Lactobacillus, lidocaine topical, lisinopril, fentanyl patch, Lisinopril/hydrochlorothiazide.

FAMILY HISTORY: Noncontributory to this stay.

SOCIAL HISTORY: Patient is married, lives with his wife in a one-level home with small step to enter. Denies any alcohol, tobacco, or illicit drugs.

PRIOR LEVEL OF FUNCTION: Patient was non-ambulatory prior to most recent hospitalization/surgical procedures secondary to severe low back pain and bilateral lower extremity weakness. He was requiring

assistance with ADLs.

CURRENT LEVEL OF FUNCTION: Mod assist with bed mobility and supine to sit. Maximal assistance x 2 with sit to stand and bed to chair. Patient ambulated 5 feet with the use of rolling walker at a moderate assistance level x 2. Patient requires extra time to complete tasks. Patient also reports bilateral lower extremities spasms. Independent with self-feeding and grooming. Minimal assistance with upper body bathing. Maximal assistance for lower body bathing and toileting.

SPEECH AND SWALLOW: Within functional limits.

COGNITIVE STATUS: Awake, alert, oriented x 3.

COMMUNICATION STATUS: Patient displays functional expressive and receptive communication skills.

REVIEW OF SYSTEMS: Lumbar back pain, bilateral lower extremity weakness, left hip/groin pain. Paresthesias to right lower extremity and left shoulder pain, which is chronic in nature. Otherwise, a 10-point review of systems is negative.

PHYSICAL EXAMINATION:
VITAL SIGNS: Temperature 97.6, heart rate 79, respirations 17, blood pressure 134/67, pulse ox 96 on room air.
GENERAL: Awake, alert, sitting upright in his wheelchair, in no acute distress. PICC line to right upper extremity.
HEENT: Normocephalic, atraumatic. Extraocular muscles are intact.
HEART: Regular rate and rhythm.
LUNGS: Clear to auscultation bilaterally. No wheezes, rales or rhonchi appreciated.
ABDOMEN: Obese, soft, nontender, audible bowel sounds.
EXTREMITIES: With no clubbing, cyanosis or edema noted.
NEUROLOGIC: Diminished sensation to light touch in right lower extremity compared to left. Sensation is intact to light touch in bilateral upper extremities. Patient with depressed reflexes in bilateral lower extremities. NEUROVASCULAR: Bilateral lower extremities pulses are intact.
SKIN: Lumbar incision clean, dry and intact with sutures in place with minimal serosanguineous drainage.
MUSCULOSKELETAL: Limited range of motion to left shoulder joint secondary to history of rotator cuff tear. Grossly 2 out of 5 strength in bilateral lower extremities proximally and distally. Grossly 3 out of 5 strength in bilateral upper extremities proximally and distally, limited left shoulder abduction and shoulder flexion, extension secondary to chronic pain from rotator cuff tear.
EMOTIONAL AND BEHAVIORAL: Pleasant, no overt signs of anxiety and/or depression.

LABORATORY DATA: WBC is 8.06, H&H 12.0 and 38.2, platelet count 263. Sodium 138, potassium 4.1, BUN and creatinine 18 and 0.73, glucose level 121,
prealbumin 27.0.

DIAGNOSTIC STUDIES: Chest x-ray completed on 04/03/2016 with no acute process. PICC line in place to right upper extremity.

IMPRESSION:
1. Chronic low back pain with osteomyelitis of the lumbar spine, status post exploration of L4-L5 with foraminotomies bilateral sides with removal of scar tissue and bony overgrowth.
2. Foraminal narrowing of the lumbar spine.
3. Non-insulin-dependent diabetes mellitus.
4. Hypertension.
5. Hyperlipidemia.
6. Gastroesophageal reflux disease.
7. Chronic left shoulder pain secondary to rotator cuff tear.
8. Right lower extremity paresthesias.
9. Bilateral lower extremity weakness.
10. Gait dysfunction.
11. Impairments in self-care.
12. Impairments in balance, transfers and safety.

13. Deconditioned state.

PLAN:

1. Admit patient for comprehensive rehabilitation with physical, occupational therapies, case management, dietitian, rehabilitation nursing and daily physiatry oversight.
2. Physical therapy consult placed for gait balance, transfer training and evaluation for assistive device.
3. Occupational therapy consult placed for activities of daily living and evaluation for adaptive equipment.
4. Dietary consult placed to assist with all nutritional needs.
5. Rehabilitation nursing to provide 24 hours a day, 7 days a week of nursing care and supervision to monitor patient's bowel, bladder and skin needs.
6. Case management to assist with all discharge planning.

Patient's goal is to return home with his wife and additional home health therapies and nursing care. Durable medical equipment to be determined pending patient's overall functional recovery.

PROGNOSIS: Good. The patient will require 3 hours of daily therapy over a 5 period.

ESTIMATED LENGTH OF STAY: 2 weeks.

SPECIAL RISKS FOR COMPLICATIONS AND COMORBIDITIES (MEDICAL AND FUNCTIONAL) :

1. The patient is at risk for falls. We will place patient on bed and chair alarms and close supervision daily by all staff.
2. The patient is at risk for skin breakdown secondary to lower extremity weakness and immobility. We will continue to encourage q.2 hour turns while in bed and frequent weight shifts while in a wheelchair.
3. Patient at risk for hypoxemia and decreased exercise tolerance. We will continue to encourage use of incentive spirometry q.2 hours while awake.
4. The patient is at risk for constipation secondary to opioid-induced narcotic medication. We will place patient on daily bowel regimen.
5. Patient at risk for worsening infection secondary to history of osteomyelitis of the lumbar spine. We will continue patient on IV antibiotics with close monitoring by pharmacy.

POST-ADMISSION PHYSICIAN'S EVALUATION: There is no change in status compared to preadmission screen done within the last 24 hours. Considering all the information above, it is my best judgment that the patient can participate and benefit from a comprehensive course of inpatient rehabilitation under the direction of a rehabilitation physician. Care at a less intensive setting would not adequately meet this patient's medical or rehabilitative needs.

FACILITY-Consultation Report

DATE OF CONSULTATION:

04/06/2020 REQUESTING

PHYSICIAN: [Dr H-] CONSULTING

PHYSICIAN: [Dr K-]

REASON FOR CONSULTATION: Left shoulder and left anterior hip pain.

HISTORY OF PRESENT ILLNESS: This is a 71-year-old white male who is currently an inpatient at [Facility Name] for a lumbar laminectomy approximately 1 week ago. Patient was operated on by a neurosurgeon at another facility and while in acute rehab, patient suffered a fall landing on to his backside that initiated pain to his left anterior hip and he has been complaining of it since the fall shortly after his surgery. This discomfort is down in the hip and is limiting his ability to

participate fully with the rehab at [Facility Name]. Patient has also a complaint of left shoulder pain, has a history of a left rotator cuff injury, treated with occasional steroid injection in his shoulder. Last steroid injection was approximately a year and a half ago and lasted until recently.

Patient's left hip pain is described as muscular and described it over the anterior part of the hip. Most of the discomfort is felt when the patient tries to put weight on the hip or try to perform a straight leg raise. He states that pain does radiate down to the lateral aspect of the hip, but there is no specific connection with the lumbar spine. Patient has an extensive history of lumbar spine surgeries including C-spine fusions in the 1960s with subsequent hardware removal, upper lumbar fusion approximately 1 year ago. He then unfortunately became infected and has the hardware removed and treated with IV antibiotics for approximately 7 months. Patient does complain of on and off numbness and tingling in his lower extremities but denies any weakness or any changes with bowel and bladder. Patient has not had any surgical procedures to his left hip.

He describes his left shoulder pain as worse at approximately 90 degrees of flexion and then trying to reach and perform activities above his shoulders. Denies any symptoms in his upper extremities.

PAST MEDICAL HISTORY: As per intake sheet.

ALLERGIES: BACLOFEN.

PAST SURGICAL HISTORY: Right total shoulder arthroplasty by [Dr U-] 1-1/2 years ago; left total knee replacement by a physician approximately 5 years ago; T-spine fracture with fusion in 1962; lumbar fusion in 2/2016 with subsequent hardware removal a few months later compromised with diagnosis of osteomyelitis and IV vancomycin for approximately 7 months; lumbar decompression, L4-L5 approximately 1 week ago.

SOCIAL HISTORY: Patient lives locally here in the area. Denies use of tobacco or alcohol. Patient is currently retired. Denies any allergies to any metals and patient's right total shoulder and right total knee functions well.

PHYSICAL EXAMINATION:
LUMBAR SPINE: Patient does have a 4-cm incision with nylon sutures in place. He does have a thick, grayish, slightly purulent drainage on the 4 x 4. There is no erythema. There is no acute sign of infection on the skin and not able to express any fluid from the lumbar incision. Physical exam of the left hip, I can passively flex his left hip to approximately 110 degrees, pain with internal and external rotation, also pain with internal rotation of approximately 20 degrees, external rotation of approximately 35 degrees. Patient is tender to palpation over the proximal anterior quadriceps and mildly tender over the left greater trochanter. Patient's compartments and bilateral lower extremities are soft and nontender. Bilateral lower extremity strength is grossly graded at 5-/5. Patient does have some discomfort with axial compression of the left hip. Pelvis is stable. Patient has full active range of motion of the right knee and right hip. Has a well-healed midline knee incision on the right, approximately 7 cm. Physical exam of the right upper extremity, there is an anterior shoulder well-healed incision.
Deltopectoral incision approximately 5 cm is also well healed. Active range of motion of his shoulder. Flexion is approximately 120 degrees with abduction 110 degrees. Nontender over the right shoulder. Physical exam of the left shoulder, he is tender on palpation of the left AC joint and subacromial bursa. Active range of motion is approximately 120 degrees with discomfort from 90 degrees all the way up to 120 degrees. External rotation is approximately 30 degrees. He does have positive impingement signs of Hawkins and Neer and also has weakness of the supraspinatus at 4-/5. Patient does not have a drop arm test. Patient is grossly neurovascularly intact.

DIAGNOSTIC DATA: X-rays reviewed of the left hip show no fracture or dislocation. MRI without contrast of the left hip showed no obvious labral tears, no acute fractures or bony abnormalities, no abscesses, essentially a negative MRI. X-ray of the shoulder was pending.

ASSESSMENT: A 71-year-old right-hand dominant white male with left rotator cuff syndrome and left muscular hip pain.

PLAN OF TREATMENT: X-ray of the left shoulder was ordered. We have asked to continue rehab, weightbearing as tolerated on the left lower extremity.
Patient is currently being treated with vancomycin through a peripherally inserted central catheter line, so a steroid injection does not appear appropriate at this time. Patient will be followed closely with rehab specific pain modalities for these 2 painful areas. Patient may need advanced imaging including MRI with contrast or treatment with p.o. steroids from the rehab services.

Back care is to continue with a patient's prior spine surgeon and rehab with [Dr H-]

FACILITY-Physician Progress Notes
DATE OF SERVICE: 04/06/2020

SUBJECTIVE: Patient was seen and evaluated today. He reported severe lumbar left gluteal region and anterior thigh pain. He was evaluated by his primary spine surgeon, Dr. B_ from [Hospital Name]. Dr. B_ would like to order MRI of lumbar spine with and without contrast for further evaluation. Initial recommendations then include injection to left trochanteric bursa. The patient is not a candidate for this. He is currently being treated for osteomyelitis. He denies any chest pain or shortness of breath.

Patient missed physical therapy today secondary to scheduled doctor's appointment.

OBJECTIVE:
VITAL SIGNS: Temperature 97.5, heart rate pressure 129/62.
GENERAL: Awake, alert, in no acute distress. HEART: Regular rate.
LUNGS: Unlabored breathing. ABDOMEN: Obese, soft, nontender. EXTREMITIES: No palpable edema.

IMPRESSION AND PLAN: ,

1. Low back pain with radicular pain to left anterior thigh. Patient is status post reexploration of L4-L5 with foraminotomies, removal of scar tissue and bony overgrowth due to osteomyelitis. He is to continue on IV vancomycin at this time. Repeat MRI of the lumbar spine with and without contrast will be ordered for further evaluation of patient's pain.
2. Acute on chronic pain syndrome. Patient to continue fentanyl patch with breakthrough oxycodone.
3. Constipation. The patient to continue on daily bowel regimen, stool softener and laxative.
4. Deep venous thrombosis prophylaxis. Continue daily Lovenox.
4. Neuropathic pain. Patient to continue daily gabapentin 700 mg t.i.d.

FUNCTIONAL ASSESSMENT: Modified independent with grooming, supervision with upper body dressing, total assist to lower body dressing, moderate assistance with bed to chair to wheelchair transfers and shower transfers.

FACILITY-Physician Progress Notes
DATE OF SERVICE: 04/13/2020

SUBJECTIVE: Patient was seen and evaluated today in therapy gym. He reported poor pain control at this time. We will increase patient's oxycodone to q. 4 hours as needed for pain. Patient was agreeable for trialing this. He will go for MRI of the left hip as his x-ray was unrevealing.

OBJECTIVE:
VITAL SIGNS: Temperature 98.5, heart rate 91, respirations 18, blood pressure 121/
HEART: Regular rate.
LUNGS: Unlabored
breathing. ABDOMEN: Soft,
nontender.
EXTREMITIES: With no palpable edema.

DIAGNOSTIC STUDIES: Hip x-rays 2 views completed on 4/5/2022 no acute bony

IMPRESSION AND PLAN:
1. Patient is a 71-year-old male, well-known to me from previous admission. He is status post exploration of L4-L5 with foraminotomies bilaterally with removal of scar tissue and bony overgrowth due to osteomyelitis. He is to continue comprehensive orthopedic rehabilitation with physical and occupational therapies. We will continue to authorize patient's narcotic pain management at this time. We will await MRI results of the left hip. Further recommendations as per orthopedic surgery_____.

FUNCTIONAL ASSESSMENT: Modified independent with grooming and upper body dressing, minimal assistance for lower body dressing, supervision with bed to chair to wheelchair transfers.

Discharge Summary: 4/15/2020
Date of admission: 4/05/20
Discharge diagnoses:

- Chronic low back pain with osteomyelitis of the lumbar spine
- Foraminal narrowing of the lumbar spine
- Non-insulin-dependent diabetes mellitus
- Hypertension
- Hyperlipidemia
- Chronic left shoulder pain secondary to rotator cuff tear
- Right lower extremity paresthesias
- Bilateral lower extremity weakness
- Chronic pain syndrome

Discharge to skilled nursing facility until he can participate fully in therapies.

IGC:

ETIOLOGIC:

TIER:

60% QUALIFIER:

COMMENTS: