

EM Basic- Back Pain

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Triage note- incontinence/urinary retention? Leg weakness? Fever?

History- OPQRST about pain

Pain worse at night or wakes the patient up from sleep (red flag) vs. gets worse gradually as the day goes on

Numbness or tingling to groin (saddle) area?

Urinary/stool retention (early sign) or incontinence (late sign)

Does it feel different when you wipe yourself when you go to the bathroom?

Fever, night sweats, or unintended weight loss?

IV drug use?

Complete medical history- hypertension, diabetes, known AAA, cancer?

Exam- complete HEENT exam, heart and lungs

Ask patient to point where it hurts- CVA vs. midline?

Abdominal exam- tenderness? (different workup if abdominal + back pain)

In males- testicular exam

Sensory exam of saddle area

Rectal exam- can use selectively (20 year old lifting a box probably doesn't need it, 60 year old with incontinence does)

-Check perianal sensation as well as tone

Lower extremity motor exam

Hip flexor- hand on knee, push up

Hip Extensor- hand on posterior thigh, push down

Leg flexor- hold knee up, hand on lower leg, push up

Leg Extensor- hold knee up, hand on calf, push down

Ankle extensor- hand on bottom of foot, "push down on the gas"

Ankle flexor- hand on the top of foot, push up towards the head

Lower extremity sensory exam- check sensation on both sides

Straight leg raise test- patient on their back, with straight leg, raise it to 30 to 70 degrees, if pain in sciatic distribution from buttocks to knees suggests a herniated disc

Differential Diagnosis-

Abdominal Aortic Aneurysm- older patient with hypertension and new onset back pain, possibly hematuria. Use bedside ultrasound- symptomatic AAA 5cm or larger needs the OR immediately, 2 to 5 cm needs referral for followup

Aortic Dissection- can be chest and/or back pain, ripping and tearing quality to pain, most have history of hypertension

Renal colic/uroolithiasis (kidney stone)- usually younger patients with sudden onset unilateral back pain with CVA tenderness, microscopic hematuria in 70-80%, usually writhing on stretcher, can't get comfortable

Cauda Equina Syndrome- bowel or bladder retention/incontinence, sudden onset of ripping or tearing back pain, saddle anesthesia, represents an acutely herniated disc, needs an emergent MRI for diagnosis, managed emergently in the OR

Epidural abscess- IV drug user with fever and back pain, also in diabetics or patients with recent epidural injections, needs an emergent MRI for diagnosis

Tumor or mass- patients with weight loss, night sweats, back pain at night or wakes up from sleep, history of cancer, needs emergent MRI, may need emergent radiation therapy to shrink tumor burden to preserve function

Fracture- direct trauma, pathologic fractures, pain in the middle of the back

Pyelonephritis- back pain and a fever with or without urinary symptoms

Abdominal pathology- a reminder that this can present with pure back pain

Zoster- older patient with dermatome distribution of pain, pain can precede vesicles by several days

Musculoskeletal sprain/strain- diagnosis of exclusion once the above have been addressed, most common discharge diagnosis

PEARL- Major serious causes of back pain- CRAFTI

Cauda Equina

Renal

Aorta (aneurysm or dissection)

Fracture

Infection

Workup

Labs- usually low yield

UA- low threshold especially in female patients (UTI)

CBC/Chem 10/ type and cross for 8 units/emergency release blood- if suspecting AAA

ESR/CRP- elevated in epidural abscess

Imaging

Bedside ultrasound- for AAA- if larger than 5 cm and symptomatic = OR STAT

CT Aorta with contrast- if suspecting aortic dissection

CT Abdomen/Pelvis without contrast- if suspecting kidney stone

Plain films- generally low yield

American College of Radiology guidelines for plain films

Recent significant trauma or milder trauma age >50

Unexplained weight loss

Unexplained fever

Immunosuppression

History of cancer

IV drug use

Osteoporosis

Prolonged use of steroids

Age >70

Focal neuro deficit or disabling symptoms

Duration greater than 6 weeks

Emergent MRI- needed for diagnosis of cauda equina, epidural abscess, tumor

Post-void residual- useful in diagnosis of cauda equina- ask the patient to urinate then insert urinary catheter, normal is less than 100 cc

Bedside ultrasound post void residual- ultrasound the bladder in transverse plane (indicator to the right), use the calculation function (sonosite) for volume, get maximal horizontal and vertical measurements, hit "save calc", turn the probe 90 degrees (indicator towards the head) and measure largest depth, hit "save calc", sonosite will calculate volume

Diagnostic philosophy- assume a serious cause, do a good history, physical, and exam and check for red flags, if not concerning, try to talk yourself into a serious cause, if you can't then you can end workup

Treatment of back pain

Toradol (ketorolac)- 30mg IV, caution in older patients and those with renal failure/insufficiency

Morphine- 0.1 mg/kg IV is a good starting dose, zofran (ondansetron) IV as needed for nausea/vomiting, be sure the patient has a ride

Vicodin (hydrocodone/acetaminophen)- discharge medication, 1-2 tabs q4-6 hours PRN, no more than 15 tablets

Flexeril (cyclobenzaprine)- analgesia and sedation 5- 10mg PO three times per day

Valium (diazepam)- 5mg PO three times per day, don't take within 4 hours of vicodin, can use at night for sleep

PEARL- If you are prescribing sedating medications or opiates, tell the patient not to drive or drink alcohol while using these medications, document on their chart (sedation warnings given)

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