

Rheumatologic Disease in the Spine: Review Questions

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QUESTIONS

Choose the single best answer for each question.

- 1. A 45-year-old woman sees her physician because of neck pain 1 week after an automobile accident in which her car was rear-ended by a truck. She was evaluated in a local emergency department after the accident, where results of a cervical radiograph were normal. She was advised to use a soft cervical collar for several days and to expect generalized aching. The aching has modestly improved, but she is now experiencing numbness and tingling down her left outer arm to the middle finger, and the sensation is progressing. There is focal tenderness over the distal cervical spine. Which of the following therapeutic interventions should be considered for this patient?**
 - A) Computed tomography scan of the cervical spine
 - B) Initiation of high-dose nonsteroidal anti-inflammatory drug therapy
 - C) Referral to physical therapy
 - D) Round-the-clock use of a muscle relaxant
 - E) Use of a Philadelphia collar to improve cervical support
- 2. Which of the following symptoms or signs is most specific for a herniated disc in a patient with severe pain radiating down his left leg when he stands up to walk?**
 - A) Decreased ankle joint reflex
 - B) Development of urinary and bowel incontinence
 - C) Pain that is relieved by back flexion
 - D) Poor response to a 48-hour trial of bed rest
 - E) Radicular pain on a contralateral straight leg test
- 3. A 68-year-old man with diabetes mellitus and hypertension reports pain when walking. He states that he feels fine when he starts walking, but after half a block, he develops severe pain in his legs that is relieved only by sitting down. When he pushes a grocery cart, he is able to walk much further. He walks with a wide-based gait. Results of a neurologic examination are nonfocal; pulses are diminished but palpable. Which of the following is the most appropriate first step in this patient's evaluation?**
 - A) Instruct the patient in Williams' flexion exercises
 - B) Order magnetic resonance imaging of the lumbosacral spine
 - C) Perform a bone density scan
 - D) Refer the patient to a vascular surgeon
 - E) Start a graduated exercise program for the patient
- 4. Which of the following features is suggestive of ankylosing spondylitis in a patient with a 2-year history of progressive back pain?**
 - A) Basilar fibrosis on chest radiography
 - B) Positive rheumatoid factor
 - C) Presence of HLA-B27
 - D) Prominent morning back stiffness
 - E) Recurrent sciatic pain
- 5. A 74-year-old man has severe pain in the coccyx area when sitting. Two weeks ago, he slipped and fell on the stairs outside his home. The pain has been progressive and has not been relieved by any over-the-counter medication. Which of the following parts of the physical examination is most important to diagnose this patient's condition?**

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- A) Musculoskeletal
- B) Neurologic
- C) Rectal
- D) Skin
- E) Spinal

EXPLANATION OF ANSWERS

1. **(A) Computed tomography scan of the cervical spine.** Acceleration/deceleration injuries are common in motor vehicle accidents and in sports. Neck pain occurs within hours, and a 3-view cervical series is 93% sensitive for fractures. The most difficult areas to visualize are the odontoid and C7-T1 lateral view, especially in obese or heavily muscled persons. This patient has radicular symptoms in the C7 dermatome and a history of recent trauma that mandates performance of another imaging test using either computed tomography or magnetic resonance imaging (MRI) to reevaluate the lower cervical spine. When the pain is not trauma-related, is vague in location, and is not accompanied by the warning signs of infection or metastatic disease, use of an analgesic regimen, preferably nonsteroidal anti-inflammatory drugs (NSAIDs), and physical therapy is a good therapeutic option. Generalized neck pain is quite common. The use of soft or semi-rigid collars has not been shown to significantly immobilize the neck. These collars can be useful for relief of muscle spasm and as a reminder not to perform movements that may exacerbate neck pain. The various medicines marketed as muscle relaxants are minor tranquilizers and can be useful in the treatment of soft tissue pain on a short-term basis.
2. **(E) Radicular pain on a contralateral straight leg test.** This crossover test is the most sensitive test for a herniated lumbar disc. Lumbar disc pressure is highest in the flexed forward position (100% greater than the standing position), resulting in increased pain with that position and decreased pain when the pressure is lowest (the reclining supine position). As a result of the decreased pressure when lying down, it is worthwhile to consider prescribing 48 hours of bed rest. Loss of the ankle joint reflex can be seen in a normal population and therefore is less specific in diagnosing disc herniation. Urinary or bowel incontinence suggests cauda equina syndrome.
3. **(B) Order magnetic resonance imaging of the lumbosacral spine.** This patient has neurogenic claudication, the classic symptom of lumbar spinal stenosis. Unlike patients with vascular claudication, the pos-

ture of patients with spinal stenosis has a significant effect on exercise tolerance. Leaning forward (as when pushing a grocery cart) decreases pain by increasing diameter of the spinal canal. Plain radiographic films are likely to show degenerative disease but are not helpful in making the diagnosis of stenosis. When the clinical context is suggestive, MRI is the most appropriate diagnostic test. With pulses that can be palpated, the patient is not likely to have vascular claudication. Bone density tests are accurate for measuring bone density, but if a fracture is suspected, the initial test should be a plain radiograph. Exercise and physical therapy have not been shown to improve the symptoms of spinal stenosis.

4. **(D) Prominent morning back stiffness.** Ankylosing spondylitis (AS) is a spondyloarthropathy characterized by inflammatory disease of the back. Patients with AS typically complain of stiffness that is worst in the morning (or on arising) and improves with activity. The most specific, although not the most sensitive, symptom is the need to get up at night to relieve the pain. Pulmonary findings in patients with AS are unique among the autoimmune diseases. Instead of the usual basilar prominence of disease seen in such diseases as rheumatoid arthritis, chest radiography may show apical fibrosis, leading to confusion with tuberculosis. HLA-B27 is positive in approximately 90% of patients with definite AS, but the risk for AS in persons who are HLA-B27-positive is very small. The test neither confirms nor eliminates the diagnosis of AS and, therefore, should not be ordered. Patients are usually rheumatoid factor-negative. The presence of recurrent sciatica actually decreases the possibility of back pain being caused by AS.
5. **(C) Rectal.** The coccyx area is most easily evaluated by rectal examination. The most common causes of coccydynia include direct trauma, intrapelvic neoplasm, colorectal cancer, childbirth, and previous spinal surgery. A movable coccyx palpated on rectal examination suggests a fracture, which should be further evaluated by radiographic imaging studies. If results of the rectal examination are normal, proctologic, gynecologic, and urologic evaluation should be strongly considered. If results of a neoplastic work-up are negative, initial treatment should be conservative, using NSAIDs and a sitting cushion. In the posttraumatic setting, patients who do not respond to conservative therapy can be considered for coccygectomy.