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## CLINICAL VIGNETTE

# Low Back Pain: Importance of Red Flags

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### Introduction

Mechanical back pain is one of the most common problems primary care physicians (PCPs) face. Although the vast majority (over 84% by some accounts)<sup>1</sup> will have a benign course with relatively little formal investigation and uncomplicated resolution, it is very important to be aware of red flags that should alert clinicians to pursue a more aggressive evaluation.

### Case

A 70-year-old white male with a past medical history significant for longstanding hypertension and smoking for 55 years, as well as removal of a right Renal Cell Carcinoma, and prior lumbar disc disease, presented with a sudden worsening of his back pain. In addition to his positive straight leg-raising test, he complained of a new pain that he felt deep within the pre-existing musculoskeletal pain, which was more intense. Due to the sudden onset of his intense (10/10) pain, radiological studies were obtained during that office visit. A lateral LS spine film demonstrated an aneurysmal dilatation of the lower aorta, measuring between 5.0 and 5.4 cm. and he was admitted to the hospital for further evaluation.

CT angiogram demonstrated an infra-renal abdominal aortic aneurysm with maximum diameter of 4.7 cm and a crescentic mural thrombus, with a craniocaudal extent of 7.9 cm. In addition, there were bilateral extensions into the common iliac arteries, much greater on the left than on the right, with aneurysmal dilatation to 3.8 cm of the left common iliac artery, and 2.3 cm of the right common iliac artery. No dissection was noted in any artery.

In addition, a large extruded lumbar disc with spinal stenosis at L 2-3 was found, and prior to definitive vascular surgery, two epidural nerve blocks were performed with improvement of some of his chronic back pain.

Endovascular surgery was performed to repair his aortic and left common iliac artery disease. His pain had diminished greatly, and he was able to perform almost all the activities of daily life.

### Discussion

Abdominal aortic aneurysms are defined as a focal dilatation of 50% or greater from the normal diameter of the aorta. The most

common site is the area below the renal arteries (infra renal aorta). Well defined risk factors include advanced age, male gender, Caucasian race, smoking, the presence of other large vessel aneurysms, and atherosclerosis.<sup>2</sup>

Screening studies show that among males aged between 65 and 80 years of age, the prevalence of abdominal aortic aneurysm (AAA) is 4-8 percent. AAA prevalence in 65 to 80 year old women is four to six times lower compared to males. Generally, AAAs found on screenings are relatively small. Only about 0.5% of AAAs found are greater than 5.5 cm in diameter.<sup>3</sup> In June of 2014, the United States Preventive Services Task Force has recommended that men ages 65-80 who have ever smoked be screened once by ultrasonography, carrying a "B" grade recommendation.

The presence of a significantly enlarged baseline aortic diameter represents the most validated parameter associated with the rupture of a AAA.<sup>4</sup> Using the criteria established by the European Society of Vascular Surgery,<sup>5</sup> this patient had anywhere from a 1-11% chance of rupturing in a twelve month period of time.

This patient had classic symptoms of significant lumbar disc disease, which was demonstrated on MRI and treated with multiple epidural injections, with good resolution. What was unusual was that the patient also had classic risk factors for aortic aneurysmal disease, which occurred concurrently and was severe enough to require aggressive surgical intervention. The presence of a calcified aneurysmal outline on his lumbar-sacral spine x-ray provided the critical clue in identifying this significant co-morbidity, which might have gone undetected otherwise with potentially serious consequences, since his back pain did improve with several epidural injections during his hospitalization.

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