

Unusual Case Presentation: Leg Cramps

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A medication history and review of systems (ROS) are crucial in a chiropractic assessment of older persons. Because of the large array of prescription medication that frequents these populations, medication adverse effects are perhaps one of the most common, truly reversible causes of newfound symptoms. Utilizing a focused ROS in the historical portion of the examination can assist in the management of the older patient's new symptoms based on patient-specific characteristics (e.g., age, gender) and risk factors. As you gain experience, you can make an informed decision about how you'd like to incorporate the ROS into your patient care strategy.

This is a case of an older patient presenting with hip pain and a new symptom of debilitating leg cramps detected by a review of systems. ROS questioning revealed significant interference with activities of daily living, and a possible causal and temporal pattern relationship to a prescribed anti-diabetic drug, [Metformin](#). The medical prescriber was notified of the chiropractor's assessment of these findings and when the medication was discontinued, the older patient's symptoms abated.

Metformin is a widely used anti-diabetic drug, well-known among medical generalists. While commonly reported on patient history within a chiropractic practice, clinicians may not be aware of the potential adverse effects.¹ On the basis of the sum of this data, the chiropractic clinician can come to an informed conclusion about the importance of this patient's symptoms and use it to guide their subsequent decision-making.

Case Report: Overview

This case involved an obese, prediabetic, antihypertensive, retired firefighter without any personal or family history of diabetes mellitus. At his last medical physical, the blood glucose level of this patient had been "somewhat high." This patient reported that his medical physician explained that he was *prediabetic*, a term for impaired fasting glucose or impaired glucose tolerance. It is characterized by glucose levels that are higher than normal, but not high enough to be diagnostic of diabetes. This patient was "preventively" medicated with oral Metformin daily to prevent type 2 or adult-onset diabetes.

The 65-year-old male presented with a complaint of infrequent, painless hip snapping provoked when getting out of a chair or swinging his leg. This patient reported that when the snap occurred, the aching subsided. But occasionally, he experienced a sharp, different pain directly over the outside of this hip that was only relieved by rest.

The focused ROS detected daily, worsening and significant leg cramps without any predictable pattern. Visual analog pain scale for hip / groin complaint rated as a 4/10, while leg (calf) cramps were 10/10 (worst pain imaginable); "just unbearable." Patient activity had been self-modified; withdraw from all treadmill activity and recent purchase of a motorized bicycle.

Physical Examination

The examination proved to be a process of elimination leading to diagnostic probabilities. Hip X-ray revealed some cartilaginous loss, with some reduced joint space and pincer-type effect for consideration of femoral acetabular impingement (FAI).² This may cause the neck of the femur to contact the lip of the hip socket, with resulting trochanteric bursitis. Radiographically, there was an absence of Pitt's pit sign. (For more information on FAI, Please reference Dr. Deborah Pate's [excellent article](#) in DC.)²

Orthopedic and neurological lumbar spine and lower extremity evaluations proved essentially negative; mild pain on passive internal hip rotation, hypertonic tensor fasciae latae, and mild reduced active range of hip motion.

A snapping hip sign was not reproducible. The most common site of snapping hip is at the outer side, where the iliotibial band passes over the portion of the greater trochanter. When the hip is straight, the iliotibial band is behind the trochanter. When the hip bends, the band moves over the trochanter so that it is in front of it. Eventually, snapping hip may lead to hip bursitis.

Snapping hip can be divided into three types: external, internal and intra-articular.³ Snapping of the external type occurs when a thickened area of the posterior iliotibial band or the leading anterior edge of the gluteus maximus snaps forward over the greater trochanter with flexion of the hip. The internal type has a similar mechanism, except it is the musculotendinous iliopsoas that snaps over structures deep to it (usually the femoral head and the anterior capsule of the hip). Intra-articular snapping is due to lesions in the joint itself.

Diagnosis

Hip osteoarthritis, [snapping-hip syndrome](#), resolved trochanteric bursitis. Differential diagnosis: femoral acetabular impingement - pincer type. Adverse medication effect: muscle pain.

Follow-Up

Patient reports that after his medical primary advised him to discontinue anti-diabetic medication, within 72 hours his "horrible calf cramps" had resolved. Certainly this is not an empirical basis for establishing any conclusions about safety or causal risks associated with this patient's medication; however, it does emphasize the importance of gathering information on patient medication use as a critical element in case evaluation / management.

In addition, all patients should be instructed to ask their prescribing doctor or pharmacist if they want to know more about any medicine. The Food and Drug Administration is charged with the responsibility of regulating most medicines used by the public in order to ensure that pharmaceutical products are safe. One of its most straightforward ways of doing this is by issuing black-box warnings.⁴

Pharmacological warnings listed for Metformin include the tendency for some people to develop lactic acidosis while taking the drug. Early symptoms may get worse over time and this condition can be fatal. Call for emergency medical help if a patient on Metformin reports or presents with even mild symptoms such as muscle pain or weakness, numb or cold feeling in their arms and legs, trouble breathing, stomach pain, nausea with vomiting, slow or uneven heart rate, dizziness, or extreme

weakness / fatigue.⁵

References

1. Klepser TB, Kelly MW. Metformin hydrochloride: an antihyperglycemic agent. *Am J Health Syst Pharm*, 1997;54:893-903.
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3. Allen WC, Cope R. Coxa saltans: the snapping hip revisited. *J Am Acad Orthop Surg*, 1995 Oct;3(5):303-308.
4. "A Guide to Drug Safety Terms at FDA: Boxed Warning." U.S. Food and Drug Administration.
5. Metformin Side Effects. www.drugs.com/sfx/metformin-side-effects.html

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