Bilateral Neural Foraminal Stenosis Associated with Schmorl's Nodes in an Adolescent Football Athlete

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**Background:** We present the case of an otherwise healthy sixteen year-old high school football athlete who had been experiencing intermittent lower back pain for approximately two years. Although he could not identify a single traumatic episode during football or any other sport activity, he did suffer a fall while riding an all-terrain vehicle (ATV) just prior to symptomatic onset. He reported landing directly on the sacral area after falling off of the moving ATV, however he did not seek medical care at that time. Physical examination revealed normal lumbar lordosis and minimal tightness of the lower lumbar paraspinals. Weight-bearing lumbar extension exacerbated pain while seated positions and lumbar flexion relieved symptoms. All tests were negative for radicular pain. Deep tendon reflexes, muscle strength and range of motion were all found to be within normal limits, while all sensory tests were negative. **Differential Diagnosis:** Zygapophyseal joint syndrome, spondylolysis, spondylolisthesis, lumbar degenerative disc disease, disc herniation, spina bifida occulta. **Treatment:** Upon referral radiographs were negative for vertebral malalignment, bone and joint abnormalities, and spina bifida occulta. Magnetic resonance imaging (MRI) revealed a Schmorl's node at the T12-L1 level. The MRI also revealed a bilateral neural foraminal stenosis from L3 to L5. A congenitally narrow central spinal canal with mild annular disk bulging was observed at the L3 through L5 levels and a decreased disc space height with mild annular disc bulging was observed at the L5 and S1 level. Due to the patient’s age and severity of symptoms, he was treated conservatively with physical therapy. This consisted primarily of Williams flexion exercises and core strengthening. **Uniqueness:** Lumbar spinal stenosis is commonly diagnosed after middle age and secondary to years of degeneration, however those with a congenitally narrow central canal are more likely to develop symptoms at an earlier age. Our patient’s symptoms began at age fourteen, which is considered extremely early for this condition. Foraminal stenosis is often associated with severe and radicular leg pain because the decreased space in the neural foramin causing impingement of the dorsal root ganglion. Our patient failed to report this, as his only symptom was intermittent localized lumbar pain. **Conclusions:** The diagnosis of foraminal stenosis is heavily dependent on both an in-depth patient history and body positioning during assessment. Symptomatic relief during rest and provocation during activities indicate the dynamic component of foraminal stenosis. Narrowing of this area can even occur with normal lateral flexion and extension motions in asymptomatic patients. Typically, patients presenting with lumbar stenosis will complain of localized back pain as well as radicular pain in the lower extremity upon standing. Symptoms are normally exacerbated by walking and other activity. While surgery is not uncommon, conservative treatment can provide successful outcomes. In the current case, the patient’s symptoms have followed the desired course of regression following diagnosis and conservative treatment and he continues to participate in recreational sports without limitation. While cases of lumbar foraminal stenosis are rare in an athletic population, the symptoms of may present similar to lumbar pathologies seen more commonly in athletic populations. This emphasizes the need for a very thorough clinical examination. **Word Count:** 516.