

Sciatica and Sacroiliitis

By Stuart H Freedenfeld, MD

I am in my mid fifty's now and I still play soccer actively. Several years ago I took a fall and developed a sudden severe tearing pain in my right lower back. One gets used to injuries in sports especially as age creeps into our sinews so I didn't think much of it and in a few days the pain was in control and I was never unable to remain active. I was back to soccer in two days.

Several months later I began having sciatic pains burning my right calf. This was particularly likely to recur while sitting and would reliably occur on longer car rides. When I would drive, I learned that I had to move my seat back from the gas pedal, recline the back of my car seat and rotate to my left hip extending my right leg at the hip. This was the only way I could continue to drive without the fire recurring in my buttock, calf and foot. I think I must have looked to the world like I was going through a mid life crisis, reliving a teenage fantasy as I cruised around town.

It was in this screwed up driving posture, 2 years ago, that I was able to drive myself to a conference on Ozone Therapies being given by Frank Shallenberger, MD. I was interested in the use of ozone in the treatment of cardiovascular disease and was unaware at the time that ozone can also have uses in musculoskeletal disorders. At the conference we discussed the use of ozone for cardiovascular disease, sinusitis, dental cavitations, infections and osteoarthritic joints. When the topic of sciatica came up I was quite surprised. I had been under the impression that sciatica either comes from a central etiology such as degenerative disc disease, or it occurs from pressure on the sciatic notch such as occurs from "pocket wallet sciatica." But Dr. Shallenberger felt the sacroiliac joint is frequently the source.

I was still recovering from my sciatic flare, having driven so far just a few hours before, when he asked for any volunteers in the audience who had back problems and were willing to act as a model for demonstration. I eagerly volunteered. A brief exam confirmed that the tenderness was maximal at the right SI joint.

My initial eagerness waned a bit when he demonstrated the 2 inch needle that would be inserted into my SI joint but the first injection of procaine was nearly painless and to my utter amazement brought about instant and total relief of the pain. I got off the table and stood, squatted, bent in all directions and there was no longer any pain. I was then repositioned and the joint was this time injected with ozone. I was warned that ozone could be painful if it leaks into tissues and sure enough it felt like I had been firmly punched in the lower back. The more intense pain lasted only about 5-10 minutes after which the area remained moderately achy for the next two weeks. But there was no more sciatic radiation. It has been two years now and I have never had any recurrence of the pain or any sciatic symptoms that had plagued me for the past 3 years.

Theoretical Basis

Ozone has been used in German medicine for over 40 years. Because of FDA regulations there are few practitioners willing to use this remarkably effective therapy in the US. Ozone is very unstable and therefore highly reactive. The O₃ molecules immediately react with exposed molecules such as amino acids and lipids to form peroxides. The resultant molecules stimulate the production of all antioxidants including catalase, superoxide dismutase and glutathione peroxidase with a net improvement in antioxidant buffering capacity. The 2-3 DPG curve is shifted to the right resulting in greater release of oxygen from oxyhemoglobin and improved tissue oxygenation. With regard to joint disease, ozone has its major benefit through the release of growth stimulating cytokines from monocytes exposed to ozone and the direct stimulation of chondrocytes to increase the rate of cartilage formation. In the case of sacroiliitis, I believe the derangement initially occurs from posttraumatic laxity in the supporting ligaments that are needed to keep this joint from excessive movement. The abnormal joint movements cause inflammation in the joint and in the sacral nerve as it exits the pelvis in the vicinity of this joint. As ozone induced cytokines tight up the joint capsule, movement stops and inflammation subsides.

Evaluation and Technique

The SI joint is a non-articulating joint that usually has very little movement. Patients with sacroiliitis will often have localized pain in the lower back and may have pain radiating to the buttocks and down the involved leg in commonly recognized sciatic patterns. Many of my patients report difficulty lifting the leg as if to put on their socks with a bended knee. Many report the radicular symptoms feel better if they sit with their hip straightened out rather than flexed at the waist and lumbar supports are less likely to be helpful than is the case with discogenic sciatica.

When I am presented with a patient complaining of sciatica I do a basic back exam both standing and lying. On standing exam I look for symmetry of the spine, pelvic brims, greater trochanters and other landmarks. I examine for tenderness and muscle spasms of the paravertebral muscles. When the SI joint is inflamed, direct palpation of the joint line may drop the patient to his or her knees so be cautious and begin with lighter pressure at first. Most commonly the superior third is the most tender but the entire joint line must be examined before the diagnosis is excluded. This is best done with the patient in a prone position.

After completing a standing exam, the patient is examined in the standard lying position for evaluation of extremity strength, symmetry of reflexes and straight leg raising. To evaluate for hip joint etiology, I evaluate internal and external rotation of the flexed hip and perform a Faber maneuver, which I find to be the most sensitive for eliciting pain in an osteoarthritic hip. The Faber is simply Flexion, ABduction and External Rotation of the hip. Basically the patient is evaluated lying on his or her back, knee and hip are flexed and the patient is then asked to cross his/her legs by placing the outside of the foot just above the opposite knee and then to drop the knee as far as possible toward the exam table. This looks like a figure "4" when it is fully achieved.

If I suspect sacroiliitis I will then have the patient roll to his or her stomach for a prone exam of the SI joint. This joint is easily felt as a ridge about two inches from the midline and runs for about three inches in length. Examining fingers should apply gentle but firm pressure first along the uninvolved joint and then along the suspect joint. Examination will easily identify a portion of this very large joint to be the source of the pain. In some cases sustained pressure may also reproduce some or all of the radicular symptoms.

With the diagnosis confirmed and informed consent obtained, I have the patient lay comfortably face down with or without a pillow under the face or pelvis for patient comfort. The area to be injected is prepped with alcohol followed by povidone-iodine, and with my non-injecting hand I identify the joint line using my index and middle fingers spread an inch apart to act as a guide for the injection. I place 4ml procaine or bupivacaine into the tenderest part of the joint line although I tend to avoid the lower third because of the risk of causing a sciatic nerve reaction. I then ask my patient to get up and see how it feels. Typically the pain is gone or at least markedly improved. This confirms that the SI joint is the source of the problem but bear in mind that peripheral neuropathic symptoms may take weeks or longer to resolve.

Having now convinced even my most skeptical patient of the cause of his or her sciatica, I reposition the patient and repeat the prep and this time I inject with 10 ml of ozone at about 33 gamma (a gamma is a measure of concentration equal to 1microgram/cc). Dr Shallenberger told me that he would usually repeat the inject weekly until the symptoms cleared, but my personal experience taught me to wait for three weeks before re-injecting since the full benefits may take that long to manifest.

Summary

I have been using ozone in my practice since June 2001 and have had remarkable results with cardiovascular disease, viral infections such as hepatitis, cavitations (shown to close completely on repeat Cavitat examinations), and injections of knees, hips and many other joints, but no experience has been as dramatic as the injection of the SI joint for sciatica. Even when the problem has been chronic, I have rarely had to repeat the first injection, and I am still the only patient that has experienced any post-injection pain although one person had 2-3 weeks of sciatic pain from an injection into the lower third of her joint.

The technique is easy to learn and extremely safe and effective. Since most doctors have not begun using ozone, it would be worth evaluating other cytokine stimulating substances and I would encourage this as a research project for the future.