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Percutaneous intradiscal interventions

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Discogenic low back pain resulting from internal disc disruption can be severely disabling, clinically challenging, and expensive to treat. Previously, when conservative care had been exhausted, open surgical interventions such as spinal fusion or artificial disc replacement was the only treatment option for these patients. Early percutaneous procedures showed conclusively that these interventions effectively relieve pain for appropriate patients, but had some limitations, and so over the years a variety of more advanced techniques have been developed. Fluoroscopic guided percutaneous intradiscal procedures such as disc decompression, nucleotomy, intra-discalelectrothermal therapy (IDET), nucleoplasty, intradiscal radiofrequency (RF), and biaculoplastyare interventionally and minimally-invasive techniques performed in the outpatient setting, offers an intermediate intervention between conservative care and surgery. For appropriately selected patients, these percutaneous interventions can help relieve back and leg pain symptoms, including sciatica and radiculopathy and even pure axial pain caused by a central focal protrusion or central bulge of the disc. This group of patients has failed conservative therapy consisting of a trial of simple analgesics, NSAIDs, bed rest and epidural steroids. Some pain specialists also recommend that a trial of transforaminal epidural steroid nerve blocks should be attempted before these percutaneous intradiscal interventions. To optimize patient selection, the ideal candidate for these procedures should has magnetic resonance imaging (MRI), diskography, and electromyographic (EMG) changes that correlate with the patient's radicular pain pattern. During all these procedures, an instrument is introduced under fluoroscopic guidance through a needle and placed into the center of the disc where a series of channels are created to remove tissue from the nucleus or to shrinkage it. Both tissue removal from the nucleus and volume reduction of nucleus act to decompress the disc and relieve the pressure exerted by the disc on the nearby nerve root. As pressure is relieved, pain is reduced, consistent with the clinical results of earlier percutaneous intradiscal interventions. There is little tissue trauma and recovery times may be improved in many patients. Complications of percutaneous intradiscal interventions directly related to using the device are generally self-limited.

Biography

Farnad Imani is Associate Professor of Anesthesiology, and Chairman of Department of Anesthesiology and Pain Medicine in Iran University of Medical Sciences (IUMS). He is Founder of Academic Pain Fellowship in Iran at 2006, and also, Founder and President of the Iranian Society of Regional Anesthesia and Pain Medicine (ISRAPM) from 2007 until now, and was Chairman of some International Congresses of Interventional Pain Medicine. He is Founder, and Editor in Chief of Anesthesiology and Pain Medicine, which is the official Journal of ISRAPM. Furthermore, he is the Secretary at World Institute of Pain (WIP), Iran section.

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