Intradiscal surgical procedures

Intradiscal procedures: a number of procedures have been devised over the years to percutaneously treat HLD by creating a cavity within the disc. Some have been abandoned for various reasons, not the least of which is the controversy regarding the validity of the underlying premise that this can work

a) Chemonucleolysis: using chymopapain to enzymatically dissolve the disc(no longer used)

b) Automated percutaneous lumbar discectomy: utilizes a nucleotome

c) Percutaneous Endoscopic Lumbar Discectomy

d) Intradiscal endothermal therapy (IDET or IDTA)

e) Laser disc decompression.

Intradiscal Platelet-Rich Plasma

Intradiscal surgical procedures are among the most controversial procedures for lumbar spine surgery. The theoretical advantage is that an epidural scarring is avoided and that a smaller incision or even just a puncture site is used. This is also purported to reduce postoperative pain and hospital stay (often performed as an outpatient procedure). The conceptual problem with ISPs is that they are directed at removing disc material from the center of the disc space (which is not producing symptoms) and rely on the reduced intradiscal pressure to decompress the herniated portion of the disc from the nerve root. Only ≈ 10–15% of patients considered for surgical treatment of disc disease are candidates for an ISP. ISPs are usually done under local anesthetic in order to permit the patient to report nerve root pain to identify impingement on a nerve root by the surgical instrument or needle. Overall, ISPs are not recommended until rigorously controlled trials prove the efficacy [1)]

Indications utilized by proponents of intradiscal procedures:

1. type of disc herniation: appropriate only for “contained” disc herniation (i.e., outer margin of anulus fibrosus intact)

2. appropriate level: best for L4–5 HLD. May also be used at L3–4. Difficult but often workable (utilizing angled instruments or other techniques) at L5–1 because of the angle required and interference by iliac crest

3. not recommended in presence of severe neurologic deficit [2)].

Results: “Success” rate (≈ pain free and return to work when appropriate) reported ranges from 37–75%. [3) 4) 5)]

Automated percutaneous lumbar discectomy

Automated percutaneous lumbar discectomy.

Laser disc decompression

Laser disc decompression.

Percutaneous endoscopic lumbar discectomy

Percutaneous endoscopic lumbar discectomy. (PELD)

Intradiscal endothermal therapy

Intradiscal endothermal therapy.

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