Facet Joint injections

Typically, facet joint injections are performed as a part of a workup for back or neck pain. Since many patients do not have a readily identifiable cause of pain based on imaging studies and clinical evaluation, a stepwise process of different paraspinal injections is often performed. This process may include facet injections; epidural injections; selective nerve root blocks (SNRBs); and, in certain patients, discography.

The injection of local anesthetic and steroids into the facet joint is diagnostic and potentially therapeutic. When optimally performed, the injection is made directly into the joint space, though for generations anesthesiologists have been successful in injecting around the joint. Pain relief following a precise intra-articular injection confirms the facet joint as the source of pain. Although some physicians advocate the use of local anesthetic only, most practitioners inject steroids as well, attempting to provide longer pain relief. Long-term relief (6 months) can be obtained in 30-50% of patients.

Patients referred for facet injections most often have degenerative disease of the facet joints. However, even if the facet joint appears radiologically normal, facet injections still may be of use, as radiologically occult synovitis can cause facet pain, particularly in younger patients. Postlaminectomy syndrome, or nonradicular pain occurring after laminectomy, is also an acceptable reason to perform facet injections.

Occasionally, synovial cysts (out-pockets of the facet joint synovium) may be symptomatic. Most often, they cause foraminal or spinal stenosis. Typically, on T2-weighted MRIs, synovial cysts are seen as rounded areas of increased signal intensity with a peripheral rim of decreased signal intensity. These cysts are located adjacent to a facet joint. The injection of steroids into the associated facet joint is effective in resolving synovial cysts in 30-40% of patients, although repeated injections may be necessary.

Cervical facet pain is not characterized as easily as lumbar facet pain, and it can occur with a variety of symptoms, depending on the level and the individual patient. Headaches, neck muscle spasms, and general or focal neck pain can originate from the facet joints. This pain is typically worse when patients extend or turn their neck. In particular, the upper cervical facets can often cause occipital headaches. As in the lumbar spine, radiculopathy or arm weakness and/or numbness should suggest an alternative diagnosis.

Efficacy

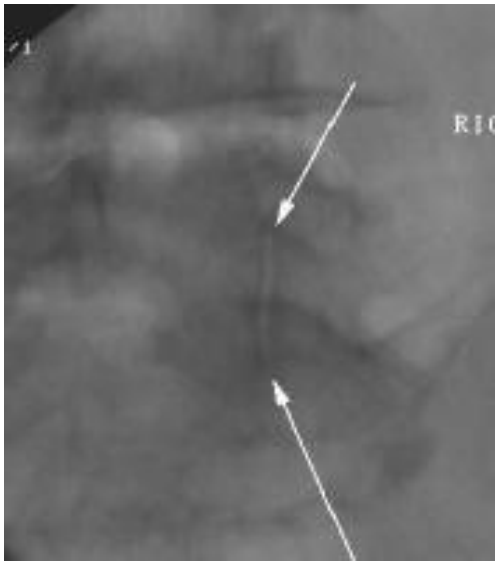
Boswell et al conducted a systematic review of facet joint interventions for treatment of chronic spinal pain (Pain Physician. Jan 2007;10(1):229-53). They concluded that for cervical intra-articular facet joint injections, there was limited evidence for short- and long-term pain relief. For lumbar intra-articular facet joint injections, there was moderate evidence for short- and long-term pain relief. For cervical, thoracic, and lumbar medial branch nerve blocks with local anesthetics, with or without steroids, there was moderate evidence for short- and long-term pain relief with repeat interventions.

Technique, monitoring, drugs, and aftercare

Informed and written consent obtained to proceed with the procedure. Explain the rational and benefits (pain relief, improved mobility and function) of the procedure and go over potential risks (bleeding, infection, reaction to drugs, vasovagal response, increased pain post-injection). Contra-indications are a history of contrast, local anaesthetic, or steroid allergy or previous anaphylactic reaction, evidence of focal or systemic infection, know bleeding diasthesis, pregnancy, immunosuppression. If the patient is on warfarin, discuss the case with the consultant Physician and consider a three day break from Warfarin. Restart the Warfarin on the same evening of the procedure.

After appropriate disinfection of the physician's hands with Hibiscrub, sterile gloves are worn and the area of the lower back disinfected with Betadine and a cover applied over the patient's buttocks. A C-arm Fluoroscope is used. Stand opposite to procedure side. The patient is put into the prone position on the radiography table. BP and pulse are taken and documented. A Pulse and Oxygen saturation monitor is turned on and the sensor fitted to the patient's index finger. The parameters are monitored throughout and after the procedure.

Obtain a PA view of the lumbar spine focusing on the region to be injected. Align both upper endplates closest to superior articular process, then ipsilateral obliquely until the joint silhouette first appears. This positioning of the C-arm best visualizes the most posterior aspect of the joint space. Using a 23G 1 ¼ blue needle, the skin is anaesthetized at the access point with 1ml 1% lidocaine. Using a spinal needle (22GA 3.5inch) with the tip slightly bent, the needle tip is advanced under X-ray guidance. The target point in the mid-portion of the joint silhouette. Proceed by injection 0.3 mls of non-ionic contrast to confirm correct final needle position (positive arthrogram) and then introduce no more than 1ml of a mixture of 1% Lidocaine and Kenalog (10mg). The needle is withdrawn and the skin cleaned and a sterile dressing applied. The patient is monitored for 30 minutes and then allowed to leave the clinic with a relative driving (no driving for the patient for 24hrs). The patient is provided with aftercare notes (potential adverse reactions following steroid injections, delayed effect of steroid, short-term anaesthetic effect, signs of infection, emergency telephone number in case required of clinic out of hours) and reviewed a fortnight later.



(C)

(D)

Image (C) obtained with the correct obliquity demonstrates the posterior opening of the facet joint as two dark lines (arrows). The needle is placed at the midpoint of the joint space. The PA view on the right (D) shows the contrast filling the joint along its whole circumference.