A simple minimally invasive technique of removing lumbar disc debris following discectomy

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BACKGROUND

Lumbar disc herniation is common and can be treated with a discectomy. Open discectomy usually involves a posterior incision and laminotomy to access the vertebral canal. An obvious disc herniation can be removed piecemeal using pituitary forceps and an annulotomy allows access inside the disc. Removal requires work through a small incision at a depth that can be challenging and the anterior annulus must be left intact to avoid damaging vascular structures. Large fragments of disc may therefore often be left behind unintentionally, resulting in a recurrent disc herniation rate of 7–12%[1,2] and up to 38% of patients having persistent sciatica.[3]

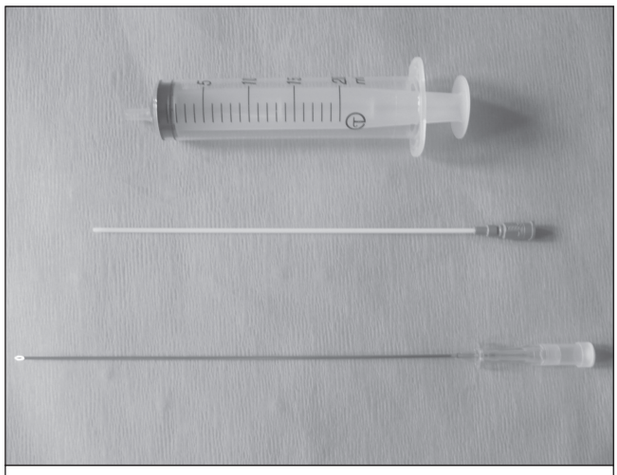

Figure 1 Abbocath®-T catheter (sheath and needle) with a 20ml syringe

TECHNIQUE

Once much of the disc has been removed manually using pituitary forceps, a 16G x 140mm Abbocath®-T radiopaque fluorinated ethylene propylene intravenous catheter (Hospira Inc, Lake Forest, IL, US) is inserted into the disc via the annulotomy. The inner needle is removed and a 20ml syringe filled with normal saline solution is attached to the Abbocath®-T catheter. This is injected at pressure into the centre of the disc, following the path of least resistance. This helps break up parts of residual disc, causing extrusion of debris through the annulotomy, where it can be removed easily with the pituitary forceps. The procedure can be repeated until the effluent solution is clear and there is no resistance to flow.

DISCUSSION

This is a simple and effective technique for removing debris following an open lumbar discectomy. Furthermore, it is safe and may lower the risk of recurrent disc herniation although further studies are indicated.

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Injecting Patent Blue Dye V for sentinel lymph node biopsy without skin staining

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BACKGROUND

Sentinel lymph node biopsy has become the gold standard technique for staging and avoidance of unnecessary node dissection in breast cancer.[1] Combinations of blue dye and radioisotope techniques are used to identify the sentinel node. Although accuracy rates are 90–100%,[2] injection of blue dye can result in unwanted skin discolouration for up to 18 months.[3] Although not pathological per se, this can cause ongoing emotional distress to women, serving as a constant reminder of the disease. We describe a simple technique of injecting patent blue dye V so as to minimise skin staining.

TECHNIQUE

An adhesive plastic film is laid over the injection site to protect the surrounding skin from any spillage of dye. The dye is then injected subdermally with a 23G needle (Fig 1) and the needle is subsequently withdrawn. Gauze is used to apply 10 seconds of pressure to the injection site to minimise immediate spillage. The plastic film is removed; it will often show minor spillage but this remains on the film as opposed to the patient's skin.

DISCUSSION

Injecting blue dye with this technique has been used successfully by us with minimal skin staining in over 100 patients. With sentinel node biopsy being increasingly performed to prevent morbidity associated with axillary clearance,[1] the potential application of this technique is likely to rise. We hope it will help reduce the number of women with long-term skin staining and thus decrease the psychological consequences of an otherwise very stressful and emotional procedure.

Figure 1 Injection of blue dye with plastic film overlying skin

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How to reduce radiation exposure during hand surgery: use of a kidney dish to protect the surgeon's hands

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BACKGROUND

In-beam radiation exposure from the image intensifier to surgeons' fingers during hand surgery has been measured as an average of 20mrem per case.[1] For comparison, a chest x-ray results in approximately 20mrem exposure to the patient. Surgeons are advised to use techniques to minimise radiation exposure to their hands.[2] We describe the novel use of kidney dishes for this purpose during hand surgery.

TECHNIQUE

A cheap and readily available plastic kidney dish is used to retract fingers (Fig 1). It is radiolucent and can be held directly over the imaging field without obscuring the images or affecting their quality. The blunt edges can be used on soft tissue without fear of damage. Figure 2 shows how a kidney dish has been used to produce a lateral image similar to the x-ray in Figure 1.

DISCUSSION

Image intensifiers are used to aid correct placement of K-wires and plates during hand surgery for trauma. Lead aprons reduce radiation to the operator but leave the surgeon's hands exposed. Furthermore, the surgeon's own hands are often used to isolate the patient's finger for imaging and therefore lie in close proximity to the imaging field. Surgeons often witness their own fingers being x-rayed. Use of the plastic kidney dishes allows good control of the patient's fingers and reduces operator exposure to radiation.

Figure 1 Lateral x-ray of finger with radiolucent kidney dish

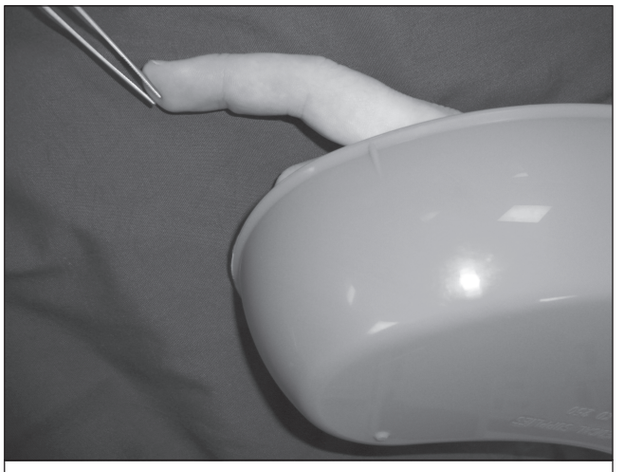

Figure 2 Kidney dish used to produce an image similar to the x-ray in Figure 1

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