Upon admission there were the usual signs of paraspinal muscle spasm and right-sided sciatica. She had lost 30 lbs. in weight. She was sleepless and harassed and could not look after her three children. No selective weakness, reflex, or sensory change could be made out in the lower limbs. Roentgenograms and a pantopaque myelogram of the lumbosacral region were negative.

Exquisite hyperalgesia was found, however, over the skin of the right loin, associated with brisk contraction of underlying muscles. This encouraged Dr. Arthur R. Elvidge to explore, and he did a bilateral removal of a large, soft and obviously diseased disc at the L4–L5 level.

Relief of pain was immediate, and the hyperalgesia had vanished by the following day. Four months later the patient was doing all her housework, was free of pain, and had gained 24 lbs.

SUMMARY

A helpful sign occurs in some cases of lower lumbar disc protrusion. When localizing tests and myelography give no clue, the sign may lead to successful surgical exploration and removal of the offending disc. It consists of hyperalgesia and reflex muscle contraction upon stimulation of the loin on the affected side. A description is given of the phenomenon.

REFERENCE


A SELF-RETAINING SPINAL DURA RETRACTOR

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Prior to the article of Mixter and Barr in 1934 on the syndrome of the ruptured intervertebral disc, surgical attack upon spinal lesions anterior to the dural sac was seldom attempted. This was primarily due to the fear of the serious postoperative complication of hemorrhage. The first operations described for removal of a herniated intervertebral disc were performed by the transdural approach. Extravascular lesions above the cauda equina lying on the anterior wall of the spinal canal were usually attacked through the anterior dura or were often considered inoperable because of the danger of injury to the spinal cord by retraction and postoperative hemorrhage. The treatment was frequently only a spinal decompression.

With recent development of more efficient methods of hemostasis, including the improved electrical coagulation instruments, fibrin foam and gelatin foam with thrombin, the horizons of neurosurgery have been extended considerably. The extradural approach for ruptured intervertebral discs has been routine for the past ten years. Lesions such as tuberculous abscesses and granulomas, as well as tumors and cysts, and even large arthritic spurs situated anterior to the dural sac, at almost any level are now readily attacked by the extradural approach.

However, the surgery of this region, i.e., the anterior wall of the spinal canal, is still fraught with technical difficulties. The chief difficulty is the exposure of the lesion by retraction. Various methods of obtaining greater exposure have been used, namely the removal of a considerable amount of bone from the lateral wall of the spinal canal (including the vertebral pedicles and ribs), section of spinal nerve roots,

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and aspiration of spinal fluid from the dural sac. The instrument most frequently used to obtain an exposure of this region is a narrow nerve retractor or spatula. The surgeon’s left hand must be relegated to the job of holding this retractor throughout the operation. The removal of the lesion, including dissection, traction, hemostasis, etc., must be done with one hand. If the use of a chisel is required, the surgeon must call upon an assistant to either hold the retractor or use the hammer, both of which are awkward and unsatisfactory. Few surgeons will place the responsibility of the instrument used for retraction of the spinal nerve roots, dura or spinal cord in the hands of an assistant.

Fig. 1. The self-retaining spinal dura retractor is attached to a modified Hoen laminectomy retractor by a large hinged clamp. The spatula is placed beneath the nerve root or cord, secured and held firmly in place by the swivel-screw-clamp.

In 1943 the author began experimenting with an operation for the treatment of ruptured intervertebral discs. It consisted of removing a part of the disc through a hemilaminectomy exposure and replacing it with a large bone graft for the purpose of fusing the vertebral bodies. This operation was gradually improved upon until it has now reached what is considered by the author to be the point of near perfection. The operation at the present time is done by a subtotal removal of the lumbar disc, including the cortex of the vertebral bodies. Three or more full-thickness bone grafts obtained from the iliac crest are driven into the intervertebral space through a partial bilateral laminectomy.

This procedure of fusing the vertebral bodies through the spinal canal has for many years been described by orthopedic surgeons as being too hazardous to be practicable, while admitting that it is the most logical and physiological method of spinal fusion. The hazard of such an operation has been removed by the development of an instrument which the writer chooses to call a self-retaining spinal dura retractor.*

* This instrument is manufactured by Codman & Shurtleff Inc., 104 Brookline Avenue, Boston 15, Massachusetts.