LUMBAR DISC PROTRUSION
A USEFUL SIGN
DONALD McEachern, M.D.*
Department of Neurology and Neurosurgery, McGill University, and the
Montreal Neurological Institute, Montreal, Canada
(Received for publication November 5, 1951)

There is a sign of lumbar disc protrusion that often goes unrecognized. This was
described some years ago but it was buried. It consists of referred hyperalgesia
and muscle spasm over back and loin when the appropriate area is stimulated.

The sign is of particular help in cases of low back pain or sciatica when localizing
tests and the myelogram are negative. It has given us courage to explore the L4–L5
and L5-S1 intervertebral spaces in several cases. Operation revealed large disc pro-
trusions, and removal gave immediate relief. These patients would otherwise have
been doomed to incessant pain. Many patients with lumbar disc protrusion do not
show this sign, but others do.

The Sign. The skin over the back on
the affected side is very sensitive to the
prick or stroke of a pin or to rough tactile
stimulation. The sensation is described
as "spreading," "vibrating," or painful;
always as unpleasant and unusual. In this
respect it resembles "thalamic" over-
response. The responsive area usually ex-
tends from the lower costal margin to the
iliac crest behind, and occasionally down
on to the buttock or even on to the sacral
area on the back of the thigh and leg. On
the loin, it extends forward only to about
the posterior axillary line and does not
involve corresponding segmental areas on the anterior abdominal wall. It is there-
fore not segmental in distribution.

Strong reflex contraction of the posterior spinal or intercostal muscles of the
affected side may accompany stimulation of the skin, even when the stimulus is
insufficient to cause unpleasant sensation. Two examples of the distribution of
hyperalgesia are pictured in Fig. 1.

The phenomenon seems to be a referred hyperalgesia and is not due to root
involvement. It disappears at once after operation. A possible explanation may
lie in the intersegmental nerve supply of the dura and ligamentous structures.

The most recent case in which this evidence has proved of value is described
below.

M.N.I. 51-7925. Mrs. I.C., aged 35, was admitted on May 17, 1951. She complained of
low back pain dating from a fall on the buttocks in November, 1950. Recurrent episodes of
severe back pain and bilateral sciatica took place in the interim. Prolonged bed rest and many
types of physiotherapy failed to improve things except temporarily. She had come to be looked
upon by physicians and friends as a confirmed neurotic.

* Deceased October 31, 1951.
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

RALPH B. CLOWARD, M.D.*

Honolulu, Hawaii

(Received for publication September 7, 1951)

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.* Extra- dural 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,

* 388 Young Hotel Building, Honolulu 9, Hawaii.