THE SYNDROME OF HERNIATION OF THE
LOWER THORACIC INTERVERTEBRAL
DISCS WITH NERVE ROOT AND
SPINAL CORD COMPRESSION

A PRESENTATION OF FOUR CASES WITH A REVIEW OF
THE LITERATURE, METHODS OF DIAGNOSIS
AND TREATMENT*

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The grave sequelae following operations on protruded thoracic intervertebral discs have cast a pall over those attempting surgery for the relief of this disorder. Unfortunately, laminectomy or attempts at removal of the protruding ridge at the intervertebral space have been made hazardous by a combination of factors. These include advanced alterations in the spinal cord caused by prolonged compression of the tissue or of its blood supply. The anatomical disadvantages facing the surgeon when operating in the narrowest portion of the spinal canal make the cord unusually vulnerable to the slightest untoward manipulation. The only reports bearing a note of optimism are those of Love and Kiefer and Logue. While confirming the gravity of the problem, they nonetheless indicated that it was possible to make an accurate pre-operative diagnosis and to operate successfully on a significant number of these patients.

In the cases presented herein, a variety of abdominal complaints, back pains and obscure neuralgias beclouded the actual pathology. A neurogenic etiology was considered as a last resort only after pyelograms, gastro-intestinal and gallbladder series failed to aid in establishing a diagnosis. At times, minor alterations in the uterus or in other organs were seized upon and unnecessary surgical procedures performed. This occurred in 2 of the cases and was only narrowly averted in a third.

It is understandable why a lesion of the intervertebral disc can be overlooked since even a careful neurological examination may disclose only the slightest deviation from normal. Most important is the awareness of the possibility of nerve root compression in the thoracic region despite the absence of gross neurological deficit. In this regard, it is mandatory to make a careful examination of the spine roentgenographically and to perform myelography when the situation is of sufficient gravity to justify this procedure. If

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the diagnosis can be established before signs of cord compression occur, operative results should improve. Surgery will not be made overly hazardous because of insurmountable tissue alterations or jeopardized by an irreparably injured spinal cord. A similar pattern has evolved in the surgery of the cervical intervertebral disc and it is anticipated that a more optimistic future lies ahead in the treatment of the same problem in the thoracic spine.

In 3 of the following cases early evidence of nerve root compression by a protruding intervertebral disc was the most conspicuous and disabling symptom. All patients were benefited by surgery, to a gratifying degree when radicular symptoms were the dominant factor. Signs of compression of the spinal cord were minimal and reversible in 2 of this group. In a fourth patient, pain was completely absent, the primary alteration occurring in the spinal cord. In this patient, while permanent damage to the cord exists, improvement has made it possible for him to resume satisfactory gainful employment.

CASE REPORTS

Case 1. B.O., a 55-year-old housewife, complained of painful, disagreeable sensations over the skin covering the lower abdomen on the right side for the past 15 months. This later became deep and boring in character, at times sharp and crushing. The pain was spontaneous in onset, appeared intermittently at first but soon became constant. Pain increased in intensity to the point of total incapacity. There was no weakness or numbness, and there were no alterations in sphincteric function. Straining did not alter the character of her symptoms but movement such as turning in bed did.

A benign pericardial cyst was discovered on routine chest films and 5 months after the onset of her symptoms a left thoracotomy was performed with the removal of the 6th rib. Following this procedure, vague pain and discomfort were appreciated in the area of distribution of the intercostal nerves sectioned at operation. There was no relief of her presenting complaints. Repeated gastro-intestinal series, gall-bladder studies and intravenous pyelography were negative.

Neurological Examination. She was an unusually tense and anxious woman complaining of severe pain on the right side extending from the upper lumbar region anteriorly to her lower abdomen, radicular in character. A band of hyperalgesia could be defined over the course of the 11th and 12th thoracic nerves both dorsally and ventrally on the right side. There was anesthesia over a band of skin in the left thoraco-abdominal region conforming to the area denervated by interruption of the intercostal nerves at thoracotomy.

Roentgenograms of the entire spine were negative. Lumbar puncture disclosed normal CSF pressure and manometrics. The spinal fluid was clear and colorless with a protein content of 50 mg. per cent. The cell count was normal. Myelography disclosed a constant defect in the column of oil at the thoracic 11–12 interspace (Fig. 1A). With increasing the tilt of the table, oil flowed by the defect in a narrow stream on the left side only. The diagnosis of an extradural tumor was made, possibly a neurofibroma of the 11th thoracic nerve.

Operation, Nov. 15, 1952. Laminectomy of thoracic vertebrae 11 and 12 was per-