INFLAMMATORY INTERVERTEBRAL DISC DISEASE
AS A COMPLICATION OF THE OPERATIVE
TREATMENT OF LUMBAR HERNIATIONS*

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Among patients treated surgically for herniation of lumbar discs, a
small percentage will suffer a specific group of chronic disabling
symptoms, with or without suppuration of the wound. There will
also be eventual improvement and evidence of complete, or nearly complete,
fusion of the interspace as judged radiographically.

The present communication presents observations on a series of in-
flammatory, or similarly progressive, disease of the intervertebral disc space
and adjacent vertebral bodies following operative treatment of herniating
nuclear disease of this space. By so limiting the definition of the subject the
authors wish to call attention to these unusual sequelae of the surgical
rection of the disease.

The authors have collected 9 examples of patients who suffered these
unpleasant complications. Each patient presented the syndrome of hernia-
tion of lumbar intervertebral disc, and, at operation, was demonstrated to
have findings of such herniation with the possible exception of the patient
in Case 5. In 3 of these patients there developed frank postoperative sup-
puration of the wound. I had a leptomeningitis, I suffered minimal drainage
of the wound without demonstrable pathogen, and the remaining 4 patients
had no drainage of the wound but complained of disabling lumbar pain of
weeks' or months' duration. Extensive radiological evidence of destruction
of the adjacent vertebral bodies and obliteration of the intervertebral space
with occasional solid bony fusion was seen postoperatively in all 9 patients.

A discussion of the features of these cases is presented, together with a
review of the experience of others in dealing with problems of "inflammatory"
states in the intervertebral space. Consideration is given to the pathogenesis
of such states.

CASE REPORTS

Group A: Postsurgical Inflammatory Reaction of Intervertebral Disc Asso-
ciated with Suppuration of Wound

Case 1. A 28-year-old male was operated upon in 1946 for a herniated interverte-
bral disc at the L5-S1 interspace on the right. A 2nd operation in 1950 revealed a

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recurrent herniation. By the 2nd postoperative day, fever (103°F.), severe low-back pain, inability to void, pains in the calf, and severe spasms of the lumbar muscles were major symptoms. The lumbar wound was blistered, reddened, and painful to touch. Pain in the right lower extremity and back continued. Lumbar wound protein was 142 mg. per cent prior to a 3rd operation 7 weeks later which disclosed dense adhesions around the right S1 root and a few remaining fragments in the interspace. Drainage from the wound began 7 days following the 3rd operation and persisted for 2 months. The organism was a gram-positive Staphylococcus. After healing of the wound, the patient suffered remittent low-back pain with bouts of gluteal radiation, lumbar aching, and bilateral cramps of leg and groin.

Examination in 1956 demonstrated limited motion of the lumbar spine, limited straight leg raising, and tenderness in the region of the lumbosacral joint. The roentgenographic study documented a progressive obliteration of the L5-S1 interspace with apparent fusion of the adjacent vertebral bodies by 1956.

Case 2. Following an upper respiratory infection a 54-year-old female underwent removal of a free fragment of disc material at the L5-S1 interspace in September, 1954. On the 2nd postoperative day she had fever, chills and pain in the back, and drainage from the wound occurred from which culture yielded a hemolytic Staphylococcus aureus, coagulase positive. The patient suffered serious sequelae of a septicemia and thereafter noted intermittent, right-sided, low-back pain and spasms, and bilateral cramps in the leg. Three months after operation severe spasms of the back and pain in the legs continued; lumbar myelography showed a distortion and constriction of the thecal sac with a cerebrospinal fluid protein of 380 mg. per cent. Operation disclosed pus (hemolytic Staphylococcus aureus, coagulase positive) superficial to the lamina of L5, a granulomatous scar around the dura mater, and a partially collapsed interspace. The patient made a complete clinical recovery with resolution of her urinary tract disease, hypertension and pain in the back and legs.

The sequence of roentgenographic changes is illustrated in Fig. 1.

Fig. 1A. Case 2. One month preoperatively. Arrow points to level of disc herniation.