THE ROLE OF PERINEURIAL SACRAL CYSTS IN THE SCIATIC AND SACROCOCCYGEAL SYNDROMES

A REVIEW OF THE LITERATURE AND REPORT OF 9 CASES*

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Perineurial sacral cysts as a cause of low backache, sciatic and sacrococcygeal pain, and of sensory and motor deficits were described by Tarlov,14—17 and further confirmation has come from other reports.1—6,8—10,12,13,20† In reviewing 28 reported cases it was noted that backache and sciatic pain were present in about two-thirds of the group, while motor and sensory deficits of sacral nerve function were present in about one-fourth of the series. In a few instances, other pathologic conditions were found, which if present alone, might have caused the sciatic and sacrococcygeal syndromes. In the writers' brief and limited experience with 9 patients who have had intrasacral cysts the question has arisen in 5 cases as to whether or not these cysts were necessarily the cause of the sciatic syndrome. It seems of more than ordinary interest, then, to review each of these cases as to the rôle played by the perineurial sacral cyst in causing the sciatic and sacrococcygeal syndromes, and to inquire in a similar manner into the cases reported in the literature.

REVIEW OF PERSONAL CASES

Perineurial Sacral Cysts—† Symptomatic

Case 1. The first real question concerning the validity of the assumption that these cysts are the cause of the syndrome came when a fairly large perineurial sacral cyst was incidentally discovered when exploring a sacral canal for an unexplained low backache, pain in the buttocks and perineum, and sciatica of 4 months' duration in a 58-year-old housewife. The cyst was not disturbed, for on further search the major lesion proved to be a large abscess in the body of the sacrum, extending well anterior to it. The wall of the abscess was biopsied but no tumor was found. The abscess cavity was drained, with subsequent relief from pain (Fig. 1). Somewhat later the sacral abscess proved to be one of several malignant metastatic lesions.

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† There may be some justifiable doubt as to the accuracy of including such reports as those of Archer et al., Baker and Webb, and Schurr, since in these cases the intrasacral lesion may have been an entirely different type of cyst (meningocele or arachnoidal diverticulum). Such may be the situation in our Case 9. However, for practical clinical purposes, they may be grouped together, though it is indeed well to recognize their differences, both etiologically and histologically.
Case 2. In another patient, a 38-year-old railway worker with a sciatic syndrome, a myelogram disclosed the presence of both a herniated intervertebral disc (L4, left) and a left S2 perineurial sacral cyst (Fig. 2). Imbrication of the cyst wall, after removing a part of it, and removal of the protruded disc, gave only temporary relief. In the immediate postoperative period there was marked sensory loss over the left side of the saddle area, with mild weakness of urinary and rectal sphincters. He improved for a while under prednisone (Meticorten) therapy, only to have recurrence of severe sciatic pain.

At re-exploration more disc material had prolated, at the L4 level, and another protrusion was present at the L3 level, causing severe compression of the cauda equina. The disc spaces were thoroughly curetted, and a dowel interbody type of fusion was performed at L4–5. He made a slow recovery with considerable but not complete relief from pain. Sensation returned to the genitals and perineum, and control of rectal and urinary sphincters returned to near normal status. More recently pain has increased; if this persists, a high thoracic anterolateral cordotomy may be indicated.

Case 3. A third case also has cast some doubt as to the rôle played by these perineurial sacral cysts in the sciatic syndrome. This patient was a 58-year-old lady who was seen on July 8, 1955, with complaints of low-back, left groin and left sciatic pain which began in February, 1955. In addition to the usual signs of an acute low-back syndrome, the Lasègue sign was negative, and percussion over the sacrum elicited distress in the lower back and left posterior thigh. A Pantopaque myelogram (Fig. 3) disclosed bilateral perineurial sacral cysts, the one on the left being larger. On surgical exploration it measured 3.5×2.5×3 cm. in its greatest diameters, and appeared to involve the left S2 and S3 roots. Sections of the cyst wall, stained by hematoxylin and eosin, Mallory’s trichrome, and Bodian stains, disclosed myelinated nerve fibers coursing through the fibrous tissue of the cyst wall (Fig. 4).

She obtained very little relief from this surgical intervention and began to experience bilateral sciatic pain and low backache. We chose to re-explore the wound and to look for cysts on the right side and disc protrusions. A transverse posterior protrusion of the lumbosacral disc was encountered and removed. Perineurial sacral cysts on the right S2 and S3 roots were subtotally removed and the sheath of the nerve root was reconstructed. She has had 80 per cent relief from pain, with minimal residual sensory loss over the S2, 3 and 4 dermatomes.

Case 4. Another example of the presence of a herniated disc with intrasacral cysts may be recorded to emphasize this point and that these cysts may be multiple.