

THE SURGICAL TREATMENT OF SPONDYLOLYSIS BY MORSCHER SCREW

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Between June 1989 and May 1991, we applied Morscher Screws (Spondylolysis Hook screw) for 16 pars interarticularis defects of 9 patients. All the patients had low back pain, and 90 % of them were suffering from a disabling pain for an average of three years. To investigate the etiology of pain, C.T., M.R.I., E.M.G. or myelography was done. Also under fluoroscopy, we infiltrated the facet joints with local anaesthetic agents to check whether the pain was originated from facet joints or spondylolysis. To the patients whose pain were established of spondylolytic origin, we implanted Morscher Screw (Spondylolysis Hook Screw) fixation and bone grafting. The mean follow up was 26 months (range: 18-36 months). In all of the patients, except one, pain was relieved.

In preoperative period, in all cases, we applied special lumbosacral stabilization braces as a predictive test. When we obtained pain relief we considered surgical internal stabilization. Careful patients selection is the basic factor of a success.

We believe that Morscher Screws can be used for patients in all age groups who were determined as having no degenerative changes.

Key Words: Spondylolysis, surgical treatment, morscher screw.

INTRODUCTION:

It must be remembered that low back pain is a symptom, not a disease. The causes are manifold but may be classified under the following headings (7):

Psychogenic back pain

Viscerogenic back pain

Vascular back pain

Neurogenic back pain

Spondylogenic back pain

"Pain drawing" gives a good deal of valuable information about both physical and psychological problems (10).

All of our patients had spondylogenic back pain. This may be defined as pain derived from the spinal column and its associated structures. The pain is aggravated by activities and is relieved by recumbency.

These lesions are most common source of low back pain.

The clinical lesions will be considered in the following order:

Posterior facet syndrome, Sacroiliac joint syndrome, Maigne's syndrome, Myofascial syndrome, herniation of nucleus pulposus, lateral lumbar spinal entrapment, radicular pain, central spinal stenosis, degenerative spondylolysis and isthmic spondylolysis.

The purpose of this study is the presentation of our experience of a new surgical intervention for the isthmic spondylolysis. This technique has been developed by Prof. Morscher in 1984 (8).

MATERIAL AND METHOD

Between June 1989 and May 1991, we applied Morscher Screw for 16 pars interarticularis defects of 9 patients. The mean age were 26 (18-44). To investigate the etiology of pain CT Scanning, EMG, MRI or myelography were done. Also under fluoroscopy, we infiltrated the facet joints with local anaesthetic agent to check whether the pain was originated from facet joints or spondylolysis.

In preoperative period, in all cases, we applied special lumbosacral stabilization corset as a predictive test. When we obtained pain relief we considered surgical internal stabilization intervention.

To the patients whose pains were established of spondylolytic origin, we implanted Morscher screw for fixation and bone grafting. The vertebral arches are exposed subperiostally up to the articular processes. The hooks are pushed from caudal over the vertebral arch and oriented to the base of the upper articular process. Connective tissue in the area of spondylolysis is removed. Corticocancellous bone block from the iliac crest is inserted.

In also postoperative period, all the patients, an special lumbosacral stabilization corset is used for 6 months.

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RESULTS

In all of the patients, except one, pain was relieved. Seven patients had radiological union within 4.5 months of surgery. Eight patients have returned to full unrestricted activity.

DISCUSSION

Spondylolysis occurs in about 6 % of a normal adult population (3).

Fusion of the defect in the pars interarticularis attempts to restore normal anatomy and to retain movement at the involved level (Hardcastle 1991). Two techniques have been described: tension-band wiring (Nicol and Scott 1986; Roca et al 1989; Johnson and Thompson 1992) and screw fixation (Buck 1970-1979) (1, 2, 4, 6, 9, 11). Later Jacap reported 16 patients treated by screw. Because of the problems which occurred with simple screwing Prof. Morscher presented this intervention as a new step (3).

The technique of Morscher Screw for spondylolysis treatment is a new step and a new surgical method. Rigid internal fixation of pars interarticularis defect is achieved by this intervention. This operation is technically simple. Spondylolysis is stabilized without sacrifice of a mobile segment. With the hook and screw, strong compression can be exerted on the spondylolysis. This rigid internal fixation provides relief of pain.

Careful patient selection is the basic factor of such a success. We believe that Morscher Screws can be used for patients in all age groups who were determined as having no degenerative changes.

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