

ASPECTS OF TREATMENT OF LOW BACK PAIN*

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In 1934 Mixter and Barr¹ published their epoch-making paper: 'Rupture of the intervertebral disc with the involvement of the spinal canal'. As a result there was a re-orientation of the views of most of the orthopaedic surgeons who were concerned with the problem of low back pain accompanied by pain in the distribution of the sciatic nerve.

Until and including June 1959, 2,303 papers had been published on the subject of the intervertebral disc. Those who launch forth on the sea of disc literature require to be skilled navigators to avoid going off course or drowning. There is hardly a branch of medicine which can, or does, ignore the 23 fibro-cartilaginous amphiarthrodial joints in the human spine. There are the physicians who occasionally stray into the orthopaedic field and advise the supply of a surgical support for the spine. There are also the radiologists who on plain radiographs often make an unequivocal diagnosis of a prolapsed intervertebral disc—something which is, after all, essentially a clinical diagnosis. The radiologist's report often conditions the general practitioner and, especially, the patient who has already heard about 'slipped disc' from his friends, or through his newspaper and magazine reading.

The orthopaedic surgeons have also come into the 'disc' picture, and have all too frequently caused irreparable damage to the spine in their quest for the offending 'disc'. Dommissie,² in 1958, in a discussion on a paper by Jonck of Pretoria, stated that 'there was prolonged disability which followed even the simplest of disc removals. Stripping of the multifidus muscle fibres from a large number of spinous processes was undoubtedly a noxious procedure from which complete and absolute recovery probably never took place'.

Having exhausted all the posterior approaches, one is now enjoined to attack the 'disc' transabdominally, either extra- or intraperitoneally. In a series of 80 operations discussed by Sacks,³ one patient developed impotence as a complication. Du Toit,⁴ when he discussed 60 patients who had also undergone anterior spinal fusion, reported that 2 patients had temporary failure of ejaculation and one had permanent failure. These complications, although remote, are serious and warrant close attention.

There are many papers in the literature with analyses of large series of patients who have had operations. Love⁵ reported 1,217 cases; Waris,⁶ 374 cases; and Knutsson and Wiberg,⁷ 251 cases. Marble and Bishop,⁸ in 1945, found that only 47% could be regarded as good or improved postoperatively, while as many as 53% were still unable to return to work 12 months after the operation. Aitken and Bredford,⁹ reporting on the 'End results of ruptured intervertebral discs in industry', found similar frequencies.

It is suggested that the natural history of the 'disc syndrome' is towards resolution in over 90% of patients. It

* Based on a paper entitled 'Quot homines tot sententiae', presented at the 43rd South African Medical Congress (M.A.S.A.), Cape Town, 24-30 September 1961.

is known that disc protrusions, which are symptom-free, may be present in myelograms. At autopsy, disc protrusions have also been discovered which have been without symptoms. Provided adequate conservative treatment is given, the incidence of operative interference should not be above 3%.

TREATMENT OF LOW BACK PAIN

During the past 5 years, 1,500 patients have been seen by me with one form or another of low back pain. Of these 1,500 patients, 400 have been classified as having 'disc syndromes'—low backache of marked severity with flattening of the lumbar curve or sciatic tilt, that may, and often does, incapacitate the patient, and that may be accompanied by symptoms and signs of root compression. Only 10 of these 400 patients were treated surgically. The remainder were treated conservatively, and over 90% returned to work within 12-14 weeks after treatment began.

Traction

There are various forms of conservative treatment available, and the selection of patients for a particular type of treatment requires careful assessment. However, where a patient is admitted to hospital for 'traction treatment', it is essential to observe certain points to ensure that the patient receives adequate therapy:

1. The initial sedation should be heavy to produce relaxation both mentally and physically, e.g. 900 mg. of pethidine may be administered over 72 hours, with 'seconal' at night.

2. Static exercises should be given *ab initio*. These include foot and ankle exercises, as well as gluteal and quadriceps contractions.

3. The traction should not be discontinued too soon—traction should be maintained until the patient has been completely pain-free for 48 hours, and until the SLR (straight leg raising) test is 60° or more.

Plaster-of-Paris Immobilization

Plaster-of-Paris immobilization is frequently employed, in the form of a plaster jacket, either as an adjunct to traction treatment, or on its own. This jacket is often a most uncomfortable encumbrance for the patient, especially at night, when the plaster may ride up and cause discomfort at the level of the base of the neck.

The jacket is not easy to put on snugly, particularly on women where there is the extra irregularity of contour. Under South African conditions the plaster jacket can become a source of much distress in the spring and summer.

The primary purpose of the plaster jacket is to prevent flexion. It was thought that similar results might be achieved if the range of flexion was restricted, rather than prevented. At the same time the disadvantages, discomforts and the cost of plaster bandages used in the full plaster jacket would also be decreased or obviated entirely.

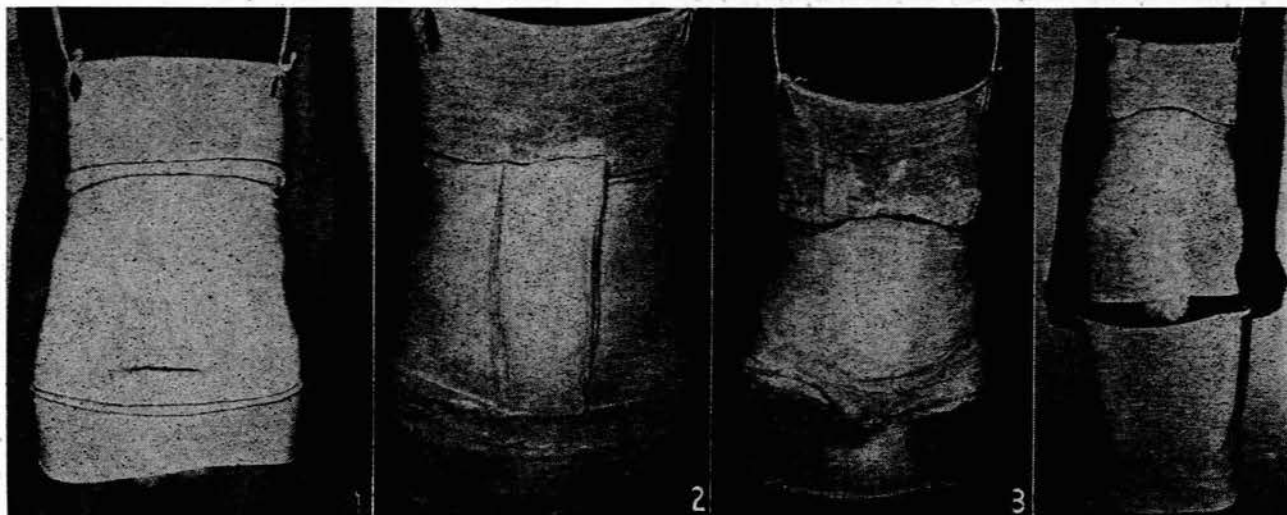


Fig. 1. A long vest has been put on which extends 6 inches below the symphysis pubis; this vest is retained by 2 shoulder straps. A second, shorter vest, is slipped over the long vest. The pencil marks indicate the upper and lower borders of the corselette, viz. the costal margin and the symphysis pubis.

Fig. 2. After one 6-inch plaster bandage has been applied, one 4-inch plaster slab is applied at the front and at the back.

Fig. 3. The corselette has been completed. Note careful moulding above the iliac crests.

Fig. 4. The inner vest may be changed by 'stepping into' a new vest which is tacked on to the inner vest and pulled through into position.

Plaster-of-Paris Corselette

A plaster-of-Paris corselette was designed to replace the jacket. This is applied while the patient is standing with the feet comfortably apart. A stockinette vest is slipped over the patient's shoulders and is retained with tapes (Fig. 1). Distally it extends 4 inches below the symphysis pubis. A second shorter vest is now put on (Fig. 1), and where necessary the bony points are padded with orthopaedic felt. One 6-inch plaster bandage is applied and extends from the costal margin to the base of the sacrum posteriorly, and to the symphysis pubis anteriorly. After this, two slabs made from two 4-inch plaster bandages are put on front and back (Fig. 2). A second 6-inch plaster bandage completes the corselette and, after turning back the edges of the outer vest, one 4-inch plaster bandage is used for tidying up (Fig. 3). The groins should be unobstructed so that the patient may sit. This is done by flexing the hip and knee to 90° . The inner vest can be changed if it becomes sticky or uncomfortable with perspiration. The patient steps into another stockinette vest which is tacked to the inner vest and pulled up under the plaster (Fig. 4). In this way one or more changes can be effected quite easily.

Fifty plaster corselettes have been employed in this fashion, 48 in men and 2 in women. They have been retained for 6 weeks in most instances, and occasionally up to 10 weeks. The patients have all been comfortable and have been able to sleep without a sensation of choking. In no instance was the normal course of recovery impeded in any way. On the contrary, spinal mobility was regained more rapidly using this 'shorty' plaster jacket.

ABOLITION OF TERM 'DISC SYNDROME'

In conclusion, a plea is made for the cessation of the use of the term 'slipped disc', or any other term including the word 'disc'. We should rather speak of 'acute back' or 'sciatic syndrome'. In this way the number of difficult backs would be reduced, because the patient would not arrive with an *idée fixe* regarding the diagnosis. Too many patients equate 'disc' with crippling operations and 'light work' for life.

As has been mentioned earlier, in a series of 1,500 patients suffering from low back pain, 400 could be classified as having 'disc syndromes'; of these only 10 required surgical treatment. Over two-thirds of these patients were 'contract' patients and could not transfer themselves elsewhere; thus they have been carefully watched and followed up for up to 5 years. Conservative therapy should play a predominant role in the management of these patients and, if enthusiastically and adequately carried out, will result in over 90% of successes.

SUMMARY

1. The natural history of the 'disc syndrome' is towards resolution.
2. After analysis of 1,500 patients suffering from low back pain, 400 were classified as having 'disc syndromes'. Only 10 of these 400 patients were treated surgically.
3. Adequate conservative treatment requires attention to details.
4. A plaster corselette is described; this has been used successfully to replace the conventional plaster jacket where it is used in the management of 'disc syndromes'.
5. A plea is made for the abolition of the use of the word 'disc' in diagnosis, because of its unfortunate connotation for both patient and doctor.

I wish to record my thanks to my brother, Mr. Alec Singer, for allowing me to include his patients in the series analysed. Mr. B. Todt, clinical photographer, Groote Schuur Hospital, was responsible for the photographs.

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