

The natural course of disc herniation

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This presentation is based on two studies. The *first study* comprised 280 patients with radicular symptoms and signs due to herniated lumbar disc herniation, verified by radiculography, who were admitted to Ullevål hospital, Oslo (1).

The ratio male/female is 1.4, the mean age 42 years. One or more earlier attacks of acute lumbago were reported by more than 90 percent of the patients, usually within the 20 years of age and provoked by a trauma. An average of 10 years passed before the first attack of sciatica were experienced, often with an insidious development. No factors were found which could differentiate between a transitory attack of low back pain and a pain which was the forerunner of sciatica. Psycho-social problems were registered in 80 patients (29%), a frequency found also in a normal population in the Scandinavian countries. In the present series the distribution of patients did not give any indication of particular occupational risk. Physical activity seems to support a faster rehabilitation period, but does not prevent attacks of sciatica. The relationship between weight and height of the patients in this study is in accordance with the normal population.

Approximately 25 percent of the patients improved during the 2 weeks stay in hospital and were sent home. Another 25 percent with serious symptoms and signs were operated on. The remainder—126 patients—with uncertain indication for surgery were randomized for either conservative treatment or surgical intervention.

The examination after one year of observation showed a satisfactory results in 90 percent of the operated on and 60 percent in the conservatively treated group (Table 1). 17 patients in the latter group had to be operated on during the first year due to intolerable pain. Consequently a strict statistical analysis is made impossible. The results are included in the figures of conservative treated patients. Following these selection principles the examination after 4 and 10 years showed a satisfactory result in both groups (Table 2).

Comparing different variables between the patients who had a good result with those having a poor result in the conservatively treated group, no factor of prog-

nostic interest was found. The only recorded observation of importance was that the majority of patients with good result improved within 3 months. So the conclusion should be that patients with radicular symptoms and signs due to a herniated lumbar disc but without definite indications for immediate surgery, should be observed for 2–3 months before a final therapeutic decision regarding operation is taken. Otherwise the study has shown that surgery is more efficient than conservative therapy as treatment for low back pain and sciatica caused by disc herniation.

Muscle weakness was observed in 64 patients. The improvement continued during the follow-up period and after 10 years pareses could be demonstrated in only 5 patients. The development of muscle function seemed to be independent of the treatment chosen—surgical or conservative. Sensory function showed the same deficits in the two groups at the follow-up examinations. It was remarkable that sensory dysfunction was demonstrable in more than 35 percent of the patients 10 years after hospitalization.

Table 1. Surgery versus conservative treatment. Prospective, controlled and randomized study in patients with proven herniated lumbar disc with 1 year of observation, percent

Results	Conservative n 66	Surgery n 60
Satisfactory	60	91
Not satisfactory	40	8

Table 2. Results in randomized groups

	1 year		4 years		10 years	
	Good	Poor	Good	Poor	Good	Poor
Conservative	40	26 ^a	58	8	62	4
Operated on	55	5	49	8	51	4

^a 17 patients in the conservative group required surgery.

The *second study* comprised 208 patients with acute sciatica who were examined within 14 days after the onset of radicular symptoms (2). 55 practitioners and company doctors participated in the study. They were all given necessary instructions to secure a uniform history taking and examination technique during 5 informative meetings.

The purpose of the study was to gain information of the natural history of acute sciatica with nerve root symptoms. The patients should have been free from sciatica during the last 6 months. A concomitant double blind investigation of the effect of a NSAID (piroxicam) was performed.

Pain in the leg and the back was registered by VAS (visual analogue scale) and the patients disability was recorded by means of a modified Roland's test form (3). After 3 months and 12 months the patients were asked to complete a questionnaire with plain questions concerning pain and disability. The mean age was 48 years.

There was a marked reduction of pain in the back and leg during four weeks in conformity with the Roland's disability test. The further development seemed to be replaced by a more chronic condition. After 1 year of observation approximately 30 percent of the patients still complained about back problems with restrictions in work and at leisure. Previous attacks of sciatica was the only factor correlated with poor prognosis.

References

1. Weber H. Lumbar disc herniation. Spine 1983; 8: 131-40.
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3. Roland H. A study of the natural history of low-back pain. Spine 1983; 8:141-50.