ON OPERATED HERNIATED LUMBAR DISCS

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Many reports are available on the end-results of surgical treatment of herniated discs. During the last 5 years, however, no contributions have been made from Sweden with the exception of the paper by *Knutsson* and *Wiberg* (1958), to which the reader is referred for some comparative data and for references.

Material, indications for operation, myelography—operative findings, complications, and after-treatment.

From 1952 to 1956 a total of 241 patients were operated upon for herniated discs at the Orthopaedic Clinic, Malmö. (Table I).

TABLE I

Patients (241) operated upon for herniated discs in 1952–1956.

Age classes in years	Males		Females		Total	%
	Number	%	Number	%		
<20	4	2.5	0	–	4	1.7
20–29	17	10.8	11	13.0	28	11.6
30–39	57	36.4	38	45.3	95	39.4
40–49	53	33.8	25	29.8	78	32.4
50 and above	26	16.5	10	11.9	36	14.9
	157	100.0	84	100.0	241	100.0

The main indication for surgery was generally severe pain for at least 4 weeks without improvement on conservative treatment (usually bed rest). In the event of earlier attacks conservative treatment was sometimes shortened. Paresis (severely impaired peroneal function) also widened the range of indications for operation. One of the patients had bladder or intestinal paresis before operation.

Myelography with Abrodil 20 %, which was regularly done before operation, was positive in 229 (95.4 %). In 89 % the findings at operation were in full accord with the myelogram. In only 8 (3 %) cases was the operative finding uncertain or negative. The myelographic and operative findings are compared in detail in Table II.

TABLE II

Myelographic and operative findings in 241 patients.

Positive myelogram 229 patients	Positive op. findings in accord with myelogram	213
	Uncertain op. findings in accord with myelogram	4
	Negative op. findings	2
	Positive op. findings not in accord with myelogram (other disc)	10
Negative myelogram 12 patients	Positive op. findings	10
	Negative op. findings	2

Myelographic examination was never followed by any complications.

When the post-operative course was satisfactory, *i.e.* rapid abatement of radiating symptoms, the patients were kept in bed for about a week. If the leg pain had not practically disappeared during this time or if complications supervened, bed rest was prolonged.

Post-operative complications occurred in 47 cases. (Table III). This incidence may appear high.

TABLE III

Complications in 47 (19 %) cases.

Haematoma with or without wound infection	28
Paresis	10
Thrombosis or embolism	3
Pneumonia	2
Bladder paresis	2
Meningitis	1
Discitis	1
Death	0

The complications were, however, as a rule only transient. Thus, of the largest group "haematoma with or without wound infection" (28 cases) only 4 were kept in hospital longer than those without any complications. Of the 10 patients with impaired peroneal function after operation, 6 reported no persistent symptoms (see questionnaire below) and 4 reported slight paresis at the time of the review. Bladder paresis in 2 lasted only a few days.

The only serious complication was staphylococcal meningitis and septicemia in a 50 year old woman. This case is reported in brief below. The operation passed without complications. No dura injury was seen. Two days after operation the body temperature rose. Antibiotics (streptomycin, penicillin, chlormomycetin) produced no demonstrable effect. On the ninth day after operation neck-stiffness developed and Kernig's sign was positive. Spine fluid obtained by lumbar punction contained 2,080 leucocytes and 6,000 erythrocytes. Signs of abscess in the operative field did not appear until 2 weeks after operation. On debridement of the wound abundant pus escaped. Bacteriologic examination showed rich growth of staphylococcus aureus. Culture of spine fluid resulted in growth of staphylococcus aureus which were sensitive only to erythromycin. Erythromycin was therefore given for one month. Repeated blood cultures during this period resulted in active growth of staphylococcus aureus. The body temperature did not return to normal until 2 months after operation. Cerebral symptoms persist.

One case of "discitis" was observed. The patient had been subfebril after the operation and back pain persisted. Severe cramp-like pain developed in the lumbar region 3 weeks after the operation. Roentgen examination revealed an inflammatory lesion at the level of the fourth lumbar disc (site of operation). Antibiotic therapy was instituted. The patient left hospital 3 months later and after a further 9 months he was healthy. Since then he has been on the whole symptom-free.

Post-operative management did not always include physiotherapy and massage. Such treatment was reserved mainly for the patients (136) in whom symptoms of back weakness persisted for a long time after the operation, provided that the radiating symptoms had largely disappeared.

Patients with persistent severe back pain after the operation were treated in the early postoperative course with a plasterjacket (27 cases) or a cloth corsette (32 cases).

REVIEW

All of the 241 patients in 1959 received a questionnaire. (Fig. 1). 230 (95 %) of the patients answered the questionnaire.

The further course of sequelae after sciatica has been accounted for in different ways. Many authors compare the state of the patient during the acute stage with that at the review. In the classification of their cases they often employ such terms as "excellent" to denote complete

freedom from symptoms and "improved" to designate a generally undefined improvement. As to such a painful condition as lumbago-sciatica, which in the acute stage often incapacitates the patient, the term "improved" might, however, imply that the patient still has fairly considerable persistent symptoms. It would therefore appear more correct to describe the severity and nature of the trouble in those who are not symptom-free.

Fig. 1.

Questionnaire.

1. Have you been free from sciatica and back pain since you returned to work after the operation (if "yes", questions 2–6 need not be answered)?
2. Have you had pain in the back or in the leg or in both?
3. Has the pain occurred occasionally and been of short duration, *e.g.* after heavy work or in cold weather?
4. Or has the pain been almost permanent but slight?
5. Or has the pain been almost permanent and severe?
6. Have you had a real recurrence (*i.e.* back pain or sciation of the same severity as before operation)? If so, how long did the pain last?
7. Have you any persistent numbness of the lower leg or foot? Have you any persistent weakness of the leg, especially of the ankle?
8. Have you been away from work because of symptoms in the back or leg since the operation (state approximately how often and how long)?
9. Has persistent pain since the operation permanently impaired your working capacity? Have you had to change occupation because of such decreased working capacity?
10. Do you think that it was mainly because of the operation:
    a) that you have made a complete recovery?
    b) that you feel much better than before the operation?
    c) that you feel worse now than before the operation?

Seventy-five (32.5 %) of the patients were completely symptom-free after the operation.

The severity and duration of the symptoms in the remainder are given in Table IV, from which it is apparent that 73.3 % (the first 2 groups taken together) were completely or almost completely symptom-free after the operation.

TABLE IV

Types of persistent symptoms.

	Number	%
Completely symptom-free	75	32.5
Occasional slight trouble	94	40.8
Rather constant slight trouble	43	18.7
Rather constant severe trouble	18	8.0

On those that were not completely symptom-free the pain was located:

Only in the back in	45 patients	(19.5 %)
Only in the leg in	10 patients	(4.5 %)
In both the leg and the back in	100 patients	(43.5 %)

Persistent paresthaesia and numbness of the lower leg and/or foot was reported by 85 (37 %) and a feeling of weakness of the leg and/or foot by 31 (13.5 %).

Recurrence (lumbago and/or sciatica) with pain of the same severity as before the operation were noted in 19 (8 %) patients.

The duration of disability after operation is given in Table V. More than half returned to work within 3 months.

TABLE V

Interval between operation and return to work.

	%	Progressive %
>1 month	6.7	6.7
1–2 months	25.6	32.3
2–3 „	24.5	56.8
3–5 „	10.5	67.3
5–7 „	15.8	83.1
<7 ”	9.1	92.2

As to the later course 170 (70 %) had never been away from work because of lumbago-sciatica after the operation, 10 had been away for 1 month, 12 for 1–2 months and 38 (17 %) for more than 2 months.

About one fourth (61 patients) reported that their working capacity was more or less permanently impaired. Ten of these had to take up lighter work after the operation or, if women and married, to stop working out of the house.

As to question 10 in the questionnaire, 90 % replied in the affirmative to a) or b). This figure is comparable to figures given for "cured and improved" in publications by other authors.

SUMMARY

From 1952 to 1956 a total of 241 patients were operated upon for herniated discs.

Myelography with Abrodil 20 % was positive in 229 (95.4 %).

All of the 241 patients in 1959 received a questionnaire, which was answered by 95 %.

73 % had been completely or almost completely symptom-free after the operation.

As to the later course 170 (70 %) had never been away from work because of lumbago-sciatica after the operation.

About one fourth reported that their working capacity was more or less permanently impaired.

RESUME

Entre 1952 et 1956, 241 malades au total ont été opérés pour hernie discale.

La myélographie avec Abrodil 20 % était positive dans 229 cas (95,4 %).

En 1959, il a étét envoyé à tous les 241 malades un questionnaire auquel il a été répondu dans 95 % des cas. 73 % ont été complètement ou presque complètement libérés de symptômes aprés l'operation. 170 (70 %) n'ont jamais été obligés de s'arrêter de travailler pour cause de sciatique lombaire après l'opération.

Un quart environ rapportent que leur capacité de travail est plus ou moins diminuée d'une manière permanente.

ZUSAMMENFASSUNG

Im Zeitraume 1952 bis 1956 wurde die Gesamtzahl von 241 Patienten wegen Vorfall der Zwischenwirbelscheibe operiert.

Myelographie mit Abrodil 20 % war bei 229 (95,4 %) positiv.

Alle 241 Patienten erhielten im Jahre 1959 einen Fragebogen, der von 95 % beantwortet wurde.

73 % waren vollständig oder fast vollständig beschwerde-frei nach der Operation.

Ungefähr ein Viertel berichteten, dass ihre Arbeitsfähigkeit mehr oder weniger dauernd herabgesetzt war.

REFERENCES

Knutsson, B. and *Wiberg, G.:* On surgically treated herniated intervertebral discs. Acta orthop. scand. 1958, *28*, 108–123.