CASE REPORT

Partial Laminectomy & Repair of Inter-Vertebral Disc

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Changes in the intervertebral disc are common where motion is greatest and where the spine is hyper-extended. The component parts of the disc are the annulas fibrosus, nucleus pulposus and two cartilaginous plates. In youth the nucleus pulposus is soft. An acute traumatic compression increases pressure within the nucleus pulposus and produces either herniation of disc or rupture. The intervertebral space becomes narrower and a partial or complete dislocation may occur.

Personal History

Patient is male, married, young and sound in health. He is a medical missionary and serving in a hospital.

History of Injury

He first injured his back in January, 1948 while throwing a bowling ball. He had a sudden back pain, which troubled him for several days. In subsequent months there were minor periods of backache, lasting for a few days, usually following brisk walking after playing table tennis. It was improved by adhesive strapping to the back and later wearing a body cast for several weeks. At this time there was pain and numbness in the ieft thigh in addition to the back pain. Over subsequent years he had numerous periods of pain which were treated by restricted activity, and sleeping on a hard bed.

In 1956 he had a marked low back pain and left sciatica. He was hospitalized and put into traction for ten days and discharged wearing a body cast. Again in January 1958 he was disabled following a prolonged standing in the operating room. This time he did not respond well to bed rest and he was admitted in the hospital.

Physical examination

Spasm of sacro-spinalis muscle group of back. Flattening of the normal lordosis of the lumbar spine. The right leg could be raised to 80 degree with the patient on back and leg straight, but the left leg could not be raised 30 degree before the pain developed. Patellar reflex were brisk. The right achilles was brisk and the left achilles was diminished. There were no sensory changes.

Laboratory and X-ray

Chest x-ray and routine urine, stool and blood studies were normal. X-ray of spine A.P. and lateral showed narrowing of the interspaces between the bodies of 4th and 5th lumbar and between the bodies of 5th lumbar and sacro-iliac joint. There were very slight posterior displacements. No signs of osteo-arthritis.

Diagnosis

Pre-operative protruded intervertebral disc syndrome involving L 4—L 5, and L 5—SI.

Pre-operative care and medication

Patient was kept at rest. The usual pre-operative preparation was carried out. Diet: extra fluids and carbohydrates. Skin was prepared and marked for surgery. Morphine 1/6 gr. with Atropine

Sulphate 1/150 gr. given Sent the patient in good condition to the operating room.

Anaesthesia

Sodium Pentothal induction, followed by Cyclopropane and O_2.

Position

Prone position, head turned to one side and the chest raised with pillows for easy breathing.

Operation

Partial laminectomy—removal of small portion of the laminae of the vertebre adjacent to the interspaces mentioned. On the left side retraction of the nerve root-incision in to the bulge of the herniated nucleus pulposus and curettment and removal of the soft nucleus pulposus from the intervertebral disc space.

Pathology

Marked bulging herniated disc of the interspace 5th lumbar and sacro-iliac nerve root—stretched tautly over the same.

Post-operative orders

Bed rest on a firm bed. Diet as desired by patient. Massage to pressure points 4 hourly. Aspirin with Codine 1 gr. T.I.D., Nembutal 100 mgm. H.S. Pethidine 100 mgm. and Carbochal 2cc I.M.P.R.N.

Nursing Care

After operation, patient was placed on a bed with the bed boards under the mattress. Frequent observation made until he recovered from anaesthesia, and for the post-operative shock. Usual post-operative nursing care was given. Reassured the patient to enlist his co-operation. Daily bed bath was given. Pressure points treated 4 hourly until he was able to move by himself.

The position was changed and maintained according to instructions. Special care was taken while giving bed pan and when changing the position. As he had difficulty in passing urine even after the usual nursing measures that can be done for a bed patient, Carbochal 2 cc I.M. was ordered on the 2nd day after the operation. Then onwards he passed urine and the bowels moved well.

Diet

For the first two days patient had fluids only, then food as desired; proteins, carbohydrate and minerals were increased. Pains and aches were removed by narcotics. Education of the muscles were done by mild passive exercise followed later by active mild exercise.

Sutures removed on 13th day, skin union was good. Nursing care of these patients is important but this patient knew the importance and need for him to co-operate, to avoid bed sores and foot drop; and to restore good muscle tone and function.

After six weeks he was discharged from the hospital in a good condition.

Postural instructions to follow at home

Instructed to avoid unusual back strain. When lifting or picking things up from low places, the patient must squat down to reach them rather than bend from the hips. To sleep on a firm bed. To do back mild exercise for the extention of the back muscles; this should be done on a padded floor. This is essential in obtaining a proper muscular balance but correct posture is acquired only through conscious effort. When sitting, to elevate the knees higher than the hips. In standing or walking most of the weight must fall on heels. Never bend back wards. Not to lift loads above the waist line. Avoid standing as much as possible. Not to bend forward with knees straight.

Exercises below from Left to Right

1. To develop the flexor muscles of the lumbo-sacral spine and stretching of the extensor-muscles.

2. To develop the glutei maximi and to make flexion at lumbo-sacral spines.

3. To stretch the erector spinae and to make flexion at lumbo-sacral spines.

4. To stretch the erector spinae and to make flexion at lumbo-sacral spines.

5. Stretches the fascia lata.

6. Develops the abdominal and glutial muscles.

7. Sqat down to take heavy things instead of bending at the hip.

8. and 9 Carrying a heavy article without strain to the back.

N.B. Learn to live 24 hours a day without a hollcw in the lower part of back.

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