developmental grounds, since the nerve cells are almost unique in their individual persistence throughout life, but, so far as I am aware, the fact has not been recorded nor its surgical importance appreciated. The discovery of even small nerves among the minute structures of a child's hand is thus easy. Their rapid recovery is to be expected from the superior vitality of a child.

Complete recovery after suture of the ulnar nerve is very unusual, if it ever occurs, but this is due to the fact that it is a mixed nerve, and not, as has been suggested, to the smallness and delicate function of the muscles it supplies. The deep branch is a purely motor nerve, and with it one may reasonably expect complete recovery, as occurs after suture of other purely motor nerves such as the posterior interosseous and in a great degree the musculospiral.

In such small hands the diagnosis of a nerve injury is not easy and Froment's sign is invaluable. The best way to elicit it is to pull on a card with the finger and thumb of both hands. Normally the powerful adductor muscle of the thumb is used and the thumb remains flat, but in ulnar paralysis this muscle is not available and an attempt is made to replace it by using the long flexor. This, however, flexes the terminal joint of the thumb, producing Froment's sign. A sign which can be recognized by the patient himself is of real value, particularly if its disappearance is associated in the infant mind with the hope of financial reward.

It is hoped that these experiences may encourage others to deal with an injury which if untreated has such grave consequences to the patient and which at first sight appears to involve difficulties which one might well regard as insuperable.

SCIATIC "NEURITIS"

BY

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It is now generally accepted that the commonest cause of chronic pain in the distribution of the lumbo-sacral nerve roots is a rupture of a lumbar intervertebral disk, but there has been much discussion during the past few years between the exponents of the "disk" and "neuritis" theories of the causation of lumbo-sacral root pain. For instance, Dandy (1943) believes that, apart from tumours of the cauda equina and bony disease of the spine, sciatic pain is invariably caused by a ruptured disk or a "concealed" disk. Symonds (1943) has stated that "the vision of an inflamed and swollen sciatic nerve, so confidently stated to be the cause of the syndrome in question, has never yet been granted to human eyes." On the other hand, Bankart (1943) has expressed the opinion that "neuritis" is the commonest cause of sciatica. He believes that the neuritis arises from a spread of periarticular inflammation in spinal arthritis to the nerve roots in the intervertebral foramina.

It seems clear, from reading the voluminous literature on the subject, that much of the variation in opinion of different authorities, neurological and orthopaedic, is due to lack of a common definition of the term "sciatica." If the diagnosis of "sciatica" be applied less loosely to cases of posterior crural pain and used only when there is evidence of a lesion of a lumbo-sacral nerve root we believe that a much more accurate clinical classification will be possible. This narrowing of the definition to "lumbo-sacral root pain" is particularly valuable when surgical treatment may be contemplated, and has previously been suggested by Pennybacker (1942).

Since we treated our first cases of ruptured lumbar intervertebral disk in 1938 we have modified our original views on the frequency of this lesion as a cause of chronic lumbo-sacral root pain, but we are in agreement with those who state that it is the commonest cause of the syndrome. In a series of 50

cases, which we have followed up and which were investigated clinically and radiologically by myelography and eventually submitted to operation, the incidence of ruptured disks was 44%. All our cases had signs of a root lesion, but at operation we encountered many conditions other than ruptured disks. The purpose of this article is to report three cases of sciatic "neuritis" in which the lesion was found at operation and was clinically indistinguishable from a ruptured disk before operation.

We have on two occasions found a swollen oedematous nerve root, and once seen adhesions around the root in the spinal canal. In none of these cases was there any evidence of a ruptured or "concealed" disk on careful exploration of the intervertebral space, although this had been the pre-operative diagnosis; neither was there any evidence of spinal arthritis in the apophyseal joints. For obvious reasons we cannot submit any histological evidence of "neuritis," but there was ample visual evidence of oedema of the nerve roots in two of the cases, and in the third the adhesions around the root were easily seen and freed. It would of course be possible to remove a piece of posterior nerve root for histological examination, but we have not thought it advisable to subject our patients to this procedure.

Case I

A miner aged 34. First seen Nov. 14, 1944, complaining of low lumbar backache, which had been present intermittently for twelve months. Says he "twisted his back" five months previously. He had occasional numbness and tingling in the two outer left toes, but definite posterior crural pain did not appear until after a period of physiotherapy. Lumbar pain was increased by sharp movements. Lasègue's sign present in left leg. Left ankle-jerk diminished. Slight objective sensory loss on outer border of left foot when leg was raised. No muscular wasting. No improvement after physiotherapy. Straight skiagrams of lumbar spine showed slight osteoarthritic lipping of adjacent anterior borders of 3rd and 4th lumbar vertebral bodies, but no thinning of the disk spaces or arthritis of the apophyseal joints. Myelography after the injection of 5 c.cm. of "fluid" neohydriol showed a defect of filling of "axillary pouch" of left first sacral nerve root opposite disk between L 5 and S 1. C.S.F.: No cells; protein, 55 mg. per 100 c.cm.; W.R. negative.

Operation.—Jan. 22, 1945. Interlaminar approach on left side between L 5 and S 1. First sacral nerve root found to be thickened to about three times normal size. This was at first thought to be due to a neurofibroma of the root, but on incision of the dural sheath no tumour was found; the root was swollen and oedematous. Further decompression was made by excision of the ligamentum flavum and parts of the laminae adjacent to the opening. The intervertebral disk was explored. No extrusion could be seen; and no softening of the disk was found after incising the posterior longitudinal ligament and inserting a sharp spoon. Most of the iodized oil was removed with a syringe before closure of the wound. The patient had intense sciatic pain after the operation, which subsided gradually in about ten days, but since that time he has had no pain and has returned to full work as a miner. Lasègue's sign and the slight sensory loss had disappeared before his discharge from hospital on Feb. 12.

Case II

A male school-teacher aged 35. First seen March 20, 1945. A year ago had pain in left buttock, and left leg felt "stiff" in mornings. Occasionally had a shooting pain down back of left leg. Pain lasted throughout the summer, but later improved after physiotherapy. About a month before he was seen the pain recurred after a period of complete freedom, but much more severely. He had to be carried into hospital. Pain down back of left leg was increased by coughing and sudden movement. He says that before the onset of the pain a year ago he lifted a heavy sack and felt some strain in his lower back. On examination Lasègue's sign at 30° on left side. Pain also produced in left leg by raising right leg to 60°; left ankle-jerk diminished; scoliosis to left; slight hypo-aesthesia on outer border of left foot and shin; slight tenderness over sciatic nerve in left thigh; no muscular wasting. C.S.F.: 4 lymphocytes per c.mm.; protein, 30 mg. per 100 c.cm.; W.R. negative. Myelography by Dr. Stanley Nowell showed a notched filling defect on left side opposite disk between L 5 and S 1. There was no evidence of thinning of the disk or arthritis of the apophyseal joints.

Operation.—March 28. Left interlaminar approach. No disk extrusion found and no softening of disk on incising posterior longitudinal ligament. Left first sacral nerve root showed definite swelling and oedema. The decompression was enlarged by slight excision of the laminae laterally.

This patient also had severe sciatic pain for a week after the operation and some retention of urine. The pain recurred in attacks for several days and then subsided. He returned home on April 17 and later resumed work, but he is not yet entirely free from pain although

not severely disabled. The iodized oil was not removed at operation, and a further film taken before his discharge from hospital showed that the notched filling defect remained in the same position as before.

Case III

A housewife aged 44. First seen July 20, 1944. Had had recurrent left sciatic pain for four years. Pain increased by coughing. Lasègue's sign present and left ankle-jerk diminished. No sensory loss or muscular wasting. C.S.F.: No cells; protein, 40 mg. per 100 c.cm.; W.R. negative. Myelography of the lumbar region showed a slight asymmetry of filling of the first sacral "axillary pouches," with less filling on the left side. No bony abnormality was seen and there was no narrowing of the disk spaces.

Operation.—Sept. 22. Laminectomy of L 4 and L 5. No evidence of disk protrusion on careful exploration of both disk spaces. No softening of disks found. Fine adhesions clearly seen on left first sacral root within the spinal canal. These were freed and the root mobilized. The patient made a rather slow recovery from her pain over three weeks and has remained free from pain since.

Comment

In the first case the swelling of the root was so gross that we were satisfied that it must have been due to a local tumour or very severe oedema. As there was no evidence of any disk protrusion or other cause of external pressure a longitudinal incision was made into the nerve root, which was found to be pale, homogeneous, and oedematous. The enlargement was more than sufficient to cause the defect seen in the myelograms. The prolonged and severe pain after operation is quite unusual in disk cases, but might well be expected with an inflammatory lesion.

In the second case the swelling was less marked, and we might not have felt so confident of the diagnosis but for the similarity to the first, especially in the post-operative course. In this case the iodized oil was left in the theca and, as would be expected, the filling defect persisted in a post-operative skiagram in spite of the decompressive effect of the operation.

The diagnosis of "neuritis" or "radiculitis" at operation is obviously very difficult unless gross enlargement of the root is present, and as these cases have occurred recently we think we may have missed a similar but less marked condition in some of our earlier and hitherto unexplained cases of root pain in which we found no lesion at operation.

It is impossible at this stage to arrive at any definite conclusion as to the cause of the oedema of the nerve roots which we have observed. We could find no evidence to suggest that it was due to the spread of inflammation from arthritis of the intervertebral joints. The mechanical explanation afforded by Dandy's conception of the "concealed" disk causing intermittent compression of the nerve root could perhaps be invoked to explain the oedema and even adhesions in these cases, but, as we have said, we could find no evidence of any abnormality of the disk, and we have not yet encountered any cases conforming to Dandy's description. Mechanical compression of a nerve root from narrowing of the intervertebral foramen or encroachment of posterior osteophytic outgrowths could conceivably cause the oedema we have observed, but one would expect radiological evidence of this to be visible, which it was not in our cases. Magnuson (1944) has discussed these aspects of the diagnostic problem.

If the lesions are inflammatory and no mechanical factor is concerned in their causation it is difficult to think of any condition which would affect isolated spinal nerve roots, apart from herpes zoster. There is some evidence that zoster can occur without a cutaneous eruption, but it is highly improbable that oedema of the affected nerve root would continue for many months even in those cases in which neuralgia persists. In this connexion we have recently seen a case of herpes zoster of the fifth lumbar nerve root after the removal of a fragment of a ruptured fourth lumbar disk. The patient was entirely free from pain on discharge from hospital, but returned a week later with a severe recurrence of his sciatic pain. It was at first thought that a further rupture of the disk had occurred, but within two days a herpetic eruption developed in the fifth lumbar area on the right leg. The severe pain lasted for about a week, but then subsided gradually and has not recurred.

We must leave the problem for further elucidation by observation of the "pathology of the living," as it is improbable that morbid anatomical studies will be available to provide the answer. At present we cannot differentiate these cases of

"neuritis" from those with a ruptured disk before operation. We must for the moment be content with having seen a lesion which Symonds considers "has not yet been granted to human eyes."

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FOOD CONSUMPTION OF WORKING-CLASS AND LOWER-MIDDLE-CLASS FAMILIES IN BRUSSELS DURING JANUARY, 1945

BY

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Great concern has been shown regarding the feeding of the peoples in the occupied countries both during the German occupation and since their liberation. There have been many conflicting reports, and little reliable information has been published concerning the feeding position even in those countries which were liberated many months ago. This article gives an account of the feeding of a number of working-class and lower-middle-class families in Brussels during Jan., 1945, some four months after their liberation. It is felt that this description might assist in forming some general opinion concerning the feeding in other localities.

The rations supplied during the period chosen for this study were much the same as had been available for the whole of the period from the liberation in Sept., 1944, to Jan., 1945. They were, in fact, not greatly different from those allowed during the latter part of the German occupation, although during the first two winters of the occupation food had been in such short supply that famine oedema and other evidence of serious malnutrition were encountered in Brussels and other large cities (Bastenie *et al.*, 1944). Thus the data give a fair indication of what the people of medium economic status in Brussels have had to eat during the past two or three years. Wealthier families, by buying on the black market, have had more to eat, and others, through poverty, have had less.

Methods and Results

The information was obtained from records specially kept by 19 clerks or workers at a factory in Brussels, who noted all the purchases of food by their families during a period of one week from Jan. 8 to 14, 1945. The subjects also indicated whether the various items were bought legally or on the black market. The men were given a light midday meal at their place of work, for which they surrendered food coupons, and this was taken into account when assessing the diet of the families. No other source of food was available. Details of the composition of each family and of the income were also obtained. The excellent co-operation given by the men and by the social workers at the factory ensured that the information was reasonably reliable.

The families chosen for this investigation were those of 10 clerks and 9 workmen employed by a gas and electric company. Only men who were willing to co-operate were selected, but there was no reason, on this account, to suspect any bias whereby their diet was not generally representative of that of their economic groups as a whole. There was little difference between the incomes of the clerks and the workmen, the extreme limits being 2,066 and 4,100, with an average of 2,850, francs per month. (176 francs=£1.) The 19 families were composed of 70 individuals of both sexes and various ages.