CRAMP AND PROLAPSED DISC

257

or even ligating it without damaging it enough to stop normal distal conduction. This may be the mechanism of pain and cramp production in these cases, the affected nerve or the peripheral end of the sectioned posterior root acting as a short-circuiting point causing impulses to descend perhaps antidromally.

One point needing further explanation is why the cramps diminish with time. If they are due to changes in the muscle fibres or in sensory endings, are these changes reversible with the passage of time, or do other intact fibres take over their functional connexions? If the cramps are due to changes in the cord, is their gradual diminution due to completion of degenerative changes in the cut fibre and its connexions, or is it due to the time needed for other fibres and nerve endings in the cord to take over completely the functional connexions with released neurones? Such questions cannot be answered at present, and further speculation would be unprofitable. Thus, the observations made in this paper, though interesting, do not help in the elucidation of the problem of cramp. Nevertheless, if they are confirmed, they would have to be taken into account in any theory of the mechanism of cramp.

Quinine, which was suggested by Gootnick (1943) as being effective in cramp due to reflex irritation, was not tried in the present series. By the time these patients were seen the cramps had become infrequent, so that no therapy was necessary; even if quinine had been given, its efficacy would have been difficult to assess owing to the natural improvement that was taking place.

In one patient seen after this follow-up, in whom severe cramp was a prominent symptom and in whom it persisted after the response of the sciatica to conservative treatment, quinine was very effective. This patient later needed surgical treatment owing to the recurrence of sciatica.

Summary and Conclusions

1. The occurrence of cramp as a symptom in sciatica due to prolapsed intervertebral disc was studied in a series of 204 cases followed up one to seven years after operation.

2. The incidence of cramp was found to be higher after operation when, in addition to removal of the protruded disc material, a posterior nerve root has been cut.

3. The cramp occurring in these postoperative cases gradually diminished with time.

4. The significance of these findings is discussed in relation to the mechanism of cramp production.

5. The occurrence of cramp, whether before or after operation, is of no prognostic significance as regards the operative result.

6. While not helping in elucidating the mechanism of cramp, these findings, if confirmed, must be taken into account in any comprehensive theory of cramp.

My thanks are due to Mr. James Hardman, F.R.C.S., without whose work and original suggestion, this investigation would not have been undertaken.

This work was carried out by the author while holding the E. G. Fearnside Research Scholarship, University of Cambridge.

REFERENCES


BOOK REVIEWS


This monograph is the result of seventeen years of post-mortem study of hydrocephalus in the child and the adult. There are three possible causes for hydrocephalus: (1) excessive formation of the cerebrospinal fluid; (2) interference with the circulation of the fluid; and (3) failure of adequate absorption of fluid into the blood and lymph channels. Recent work discounts the first possibility, as it seems unlikely that either hypertrophy of the choroid plexuses or increased capillary pressure in them, for example, as a result of thrombosis of their efferent veins, ever result in hydrocephalus. About the third possible cause there is no certain knowledge, but a number of clinical cases of dilatation of the ventricles, as a sequel to extensive sinus throm-
basis, usually affecting the superior longitudinal sinus, has been recorded, and the name "otic hydrocephalus" may correctly be applied to some of these. In such cases the hydrocephalus is usually slight or moderate and subsides with the recanalization of the thrombosed sinus.

In the great majority of cases therefore, hydrocephalus is caused by obstruction to the circulation of the fluid. The three main causes of this are: (1) malformations, either at the level of the aqueduct of Sylvius or at the outlets from the fourth ventricle; (2) meningeal adhesions, due to pre-existing inflammations; and (3) tumours.

The malformations of the iter of Sylvius include stenosis, forking (often described as atresia as the resulting canals are of microscopic size), and neuralgial septa which usually occur at the caudal end of the canal. These maldevelopments are distinguished from postnatal stenosis by the absence of periaqueductal gliosis. Stenosis due to gliosis is considered by the author to be much more probably of inflammatory origin. In some cases it may not easily be distinguished from tumour formation.

Malformations at the outlet from the fourth ventricle, such as absence of the foramina of Magendie or of Luschka or the Arnold-Chiari malformation, or deformities of the base of the skull and foramen magnum such as occur in platybasia and achondroplasia, may also result in hydrocephalus.

Meningitis may be difficult to establish as a cause of hydrocephalus in some cases, especially those beginning soon after birth, as B. coli and some other Gram-negative bacilli may cause transient attacks of meningeal inflammation with little clinical evidence of the disease. Meningococcal meningitis has always been a common cause of hydrocephalus, some cases having a latent period of many years before symptoms of hydrocephalus appear.

Syphilis is a much rarer cause of meningitis in children than the authors of the pre-Wassermann era considered, but a number of cases has been recorded in adults.

Tumours of very varied site and character may cause hydrocephalus and are its most common cause in older children and adults. In addition to tumours in the posterior fossa, tumours and colloid cysts in the third ventricle may cause dilatation of the lateral ventricles; and diffuse meningeal tumours, such as metastatic carcinomas, may cause generalized hydrocephalus.

The author omits the difficult question of post-traumatic hydrocephalus, but in all other respects the monograph appears remarkably complete. It is profusely illustrated with excellent photographs and photomicrographs and its objective character and the full documentation of cases contribute to its authoritative character.


A single issue of the Archiv. für Psychiatrie und Nervenkrankheiten, now united with the Zeitschrift f. d. ges. Neurologie u. Psychiatrie, is entirely devoted to a large and comprehensive study by Professor Bleuler and his assistants at Burgholzli. The aim of this work was, by working on sub-groups of schizophrenics showing a characteristic endocrine disorder, to discover whether endocrine factors play any definable pathogenetic or pathoplastic role in schizophrenia and psychopathy. The work done is of painstaking thoroughness, and the results achieved, both in their positive and negative aspects, are encouraging.

The positive results were obtained with the acromegaloid constitutional type. There are three studies on this theme, one of them, by Professor Bleuler, being an interesting pathography of Voltaire. The two clinical studies show that the acromegaloid constitutional type, which can be safely distinguished from acromegaly itself, is a largely genetically determined trait, and runs a dominant course through the families studied. It is associated with anomalies of character of a particular stamp, involving tendencies to sudden variations of mood independently of any environmental cause, and to dipsomania, poriomania, and periodic bulimia. These traits are regarded as a mid-brain syndrome. Furthermore the acromegaloïd relatives of the acromegaloid schizophrenics were themselves more often schizophrenic than might be expected, and the acromegaloid constitution apparently aided the appearance of a schizophrenia. The schizophrenia so developed did not conform to the pattern of a control schizophrenia material, previously intensively studied by Bleuler ("Krankheitsverlauf, Persönlichkeit und Verhältnisse der Schizophrenen und ihrer genenseligen Beziehungen," Thieme, Leipzig, 1941). The psychosis tended to take a chronic and insidious but mild form, and to lead only to the less severe forms of defect.

Other familial and clinical studies are of schizophrenia, psychopath, or psychosis associated with Cushing's disease, with virilism in women, with excessive obesity, with infantilism, and with Simmond's disease. Here there was no suggestion of any genetic or causative connexion between the endocrinopathy and schizophrenia. Several of these anomalies, such as virilism and infantilism, were shown to have a genetic basis, tending as a rule to dominance, and in the case of infantilism there was an association with oligophrenia. Nor were pathoplastic effects on the symptomatology of the schizophrenias lacking.

This work is of considerable interest, and is a further step towards the resolution of the schizophrenias into separate and recognizable clinical entities. But it is clear that we have as yet proceeded only a little way on this path.


The third edition of this excellent short introduction shows no major changes over the second. A good deal of revision has, however, been carried out, and the book has been kept up-to-date. Larger changes might have been made but for the tragically early death of Eric Gottmann. The book still remains something of a compromise between the views of the two authors, which were derived from very different backgrounds of teaching. Nevertheless it remains a singularly clear statement of basic ideas and facts in psychiatry, not tied down to any school, and clinically oriented throughout.