reconstruction which must follow the ablation, and which demands of the surgeon a special sympathy with the object of his work.

Chronic Gastritis and End-results

Although this article deals with technique and end-results, reference should be made to chronic gastritis, because it has this in common with the technical niceties, that end-results are jeopardized by neglecting its importance.

In patients with ulcer the symptoms come from (1) the ulcer; (2) the diffuse gastro-duodenitis which so often accompanies ulcer, especially gastric, and sometimes simulates it; and (3) the mind of the patient. Many physicians and surgeons have failed to understand the fundamental importance of chronic gastro-duodenitis in diseases of the stomach and duodenum. This failure is due to the fact that they have relied upon the naked eye, either direct or through the gastroscope, for the diagnosis, not realizing that the disease is essentially microscopical. The disease may ruin the health or take the life of the patient and still remain imperceptible to the naked eye. These clinicians have falsely argued that the changes indicating chronic gastritis (the excessive cellular infiltration, with deformity and destruction of the epithelial and glandular elements) may be present without symptoms and are therefore without significance. The same argument could be applied to carcinoma in many organs, to ulcer, to gall-stones, and to chronic nephritis. Such a defective comprehension of gastric diseases leads in some cases to faulty selection, and in others to post-operative disappointment, because the symptoms due to diffuse chronic gastro-duodenitis may not disappear after operation.

Summary

There are two schools of opinion in regard to the late results of partial gastrectomy for peptic ulcer. The history and recent literature are briefly surveyed in an effort to explain this divergence. This survey confirms the opinion of Ogilvie that "the bad results of gastrectomy are the results of bad gastrectomy."

The commonest fault in technique is an improper placement of the afferent loop. This results in the so-called "dumping syndrome." The proper placement of the loop is described.

Substitute operations aimed at conserving ulcer-prone tissue are based upon an inadequate conception of the pathology of ulcer and will result in an excessive crop of recurrences and other complications. Substitute operations which include replacement of stomach by isolated loops of bowel are unnecessary and should therefore be abandoned.

In gastric surgery bad results and confusion reign to-day because insufficient attention has been paid to the old masters who fashioned the operation.

Gastric surgery should be left to those surgeons who have received a special training over and above that required for the general surgeon. Gastrectomy involves a more extensive and delicate reconstruction than that required in most major operations, and for this a special sympathy is required.

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PERONEAL MUSCULAR ATROPHY WITH MENTAL DEFECT AND MYOPATHY IN SIBLINGS

BY

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Peroneal muscular atrophy is characterized by the gradual onset and slow advance of atrophic weakness in certain groups of muscles. The disease begins in adolescence. According to Bell (1935) the mean age at onset is 10.93 years where neither parent is affected, but 18.95 years where one parent is affected. Atrophy of the peroneal and anterior tibial groups, with bilateral foot-drop, is an early finding in the disease. Progressive wasting spreads gradually, to involve the muscles of foot and leg, terminating at the knee or in some cases at the lower third of the thigh and producing the "inverted champagne-bottle" leg. Involvement of hands and forearms occurs some time after the onset of the disease in the legs, and here also can be seen a slow spread up to the elbows. Reflexes are generally diminished or absent following the atrophic weakness of muscles. Sensory changes include impairment of vibration sense, with often some diminution of postural and tactile sensibility. Mental defect is a frequent accompaniment, the grade of defect varying from moron to imbecile.

The disease is most commonly dominant in its transmission and only occasional instances have been described of its transmission by an unaffected carrier. In some cases a recessive mode of inheritance has been suggested, although Pratt (1953) has pointed out that the absence of disease in either parent may be due to low penetrance.

In the family under review three out of five siblings are affected with a progressive muscular atrophy beginning in the feet and legs and associated with a marked degree of mental defect. In order of birth the defective members are the first, second, and fourth. The third and fifth members are regarded as normal physically and mentally. At school the affected offspring were unable to progress beyond the lowest grades, 2, 3, and 4 respectively. On removal from school they were incapable of gainful employment and were kept at home until the burden became too great for the surviving parent. Both the remaining siblings, with no physical abnormality, satisfactorily completed their school grades and were gainfully employed as stenographers until marriage.

The family history, which has been extremely difficult to obtain and is admittedly incomplete, provides no

apparent evidence of similar mental or physical disability in parents or grandparents. The parents were not blood relations. The father died at the age of 67 from chronic nephritis, whilst the mother at the age of 66 was described as alert physically and mentally. Paternal and maternal grandfathers died at 57 and 84 respectively after apparently healthy lives. Paternal and maternal grandmothers, on the other hand, died at the early ages of 25 and 24 respectively, and no accurate information is available of their state. The possibility cannot be excluded that one or other may have carried the disease in a mild initial phase, and that low penetrance in their offspring may have accounted for absence of the malady in a parent of the affected siblings. An examination was carried out on two of the affected siblings.

Case 1

The patient, a man aged 39, showed no obvious physical abnormality until the age of 7 years, when awkwardness in walking was noticed. Schooling began at 6; and at 15, not having advanced beyond grade 4, he was removed from school as incapable of further progress. At home his combination of mental retardation and slowly increasing physical disability prevented him from obtaining work; his only activity was acting as a voluntary organblower in his church. On admission to the Manitoba School in 1945 the abnormalities found were wasting of the feet, claw-toes, pes cavus, and a noticeable slenderness of the limbs, together with an extensor plantar response on the right side. His I.Q. on the revised Stanford-Binet scale was 46. A year after admission it was recorded that his physical health was good and that he was working well in the laundry.

On present examination it became clear that considerable extension of the disease had occurred. There was drop-foot with inversion on both sides, and the feet were fixed in a position of pes equinovarus and pes cavus. The toes were fixed in a position of extension at the metatarso-phalangeal joint and flexion at the interphalangeal joints, giving the claw-toe appearance. Atrophy of the small muscles of the feet was accompanied by destruction of muscle tissue up to the knee, involving all compartments of the leg and producing the "rooster" leg. In spite of loss of movement at the ankle-joint the patient could move around fairly well with a steppage gait. In the upper extremities the hands were extensively involved, with pronounced wasting of the thenar, hypothenar, and interosseous muscles. Abduction and adduction of the fingers were virtually impossible, opposition of the little finger was lost, and opposition, abduction, and adduction of the thumb were grossly impaired.

Movements at the wrist-joint were weak and reduced in range, as were pronation and supination. In addition, the pectoralis major on both sides was the seat of extensive atrophy involving the sterno-costal portions. The face had also become involved. It was expressionless, with smoothed-out wrinkles and slightly open mouth. The patient could not blow out his cheeks properly or purse his lips for whistling, and his transverse smile showed weakness of the zygomatics. Closure of the eyes was weak, closure of each eye separately was impossible, and raising of the eyebrows was impaired. Apart from facial involvement the only other abnormality in the field of the cranial nerves was a bilateral nystagmus on lateral gaze. There was no ataxia. With the exception of the ankle-jerk deep reflexes were present; abdominal and cremasteric reflexes were present but no plantar response could be elicited. Sensation showed only slight loss over feet and legs, mainly impairment of vibration and delayed recognition of passive movement. Sphincters were unaffected. Vasomotor disturbance was apparent in the coldness and cyanosis of the right hand, brought on by exposure to cold. The x-ray report indicated osteoporosis and claw-feet. The E.E.G. was reported to be within normal limits.

Case 2

This sister, now aged 44, of the patient in Case 1 was not thought abnormal in any way until she went to school at the age of 6. She proved unable to make any progress with school work and never got beyond the second grade. Physical involvement apparently developed later, its onset probably so insidious that the relatives failed to observe difficulty in walking until not long before her admission to the Manitoba School in 1946. On admission it was noticed that her gait was unusual, and examination showed that the toes did not fully extend, the ankle-jerks could not be elicited, although the knee-jerk and other tendon reflexes were brisk, and the plantar response was doubtful enough to give rise to suspicion of upper motor neurone damage. After admission the patient was found capable of simple routine employment. Her intelligence quotient, estimated on the revised Stanford-Binet scale, was 34.

On present examination the disease process was found to have made considerable extension. Drop-foot, inversion, and pes cavus were present on both sides. Movement of the toes was practically impossible, apart from the left great toe, slight extension of which was possible at the metatarso-phalangeal joint. Slight movement was still possible at the ankle-joint. The gait was of steppage type. Wasting of the small muscles of the feet was accompanied by a generalized atrophy of leg muscles, not so marked as in her brother, and by atrophy of thigh muscles extending up to the lower third of the limb. In the upper extremities the hands were extensively involved. There was pronounced wasting of the interosseous, thenar, and hypothenar muscles, with loss of abduction and adduction in the fingers and thumbs. Movements at the wrist-joints were weak and diminished in range, and pronation-supination was impaired. Paresis was evident in the face, but was less advanced than in her brother's case.

Movements of the orbicularis oculi were weak: the patient was unable to close her eyes tightly or to shut them separately. Similar weakness was present in the region of the mouth. She could not blow out her cheeks, whistling was impossible, and involvement of the zygomatics had produced a transverse myopathic smile. Apart from the facial, none of the other cranial nerves showed obvious abnormality. Precision of movement was impaired owing to weak paretic muscles, but otherwise no ataxia was present. In the sphere of reflexes ankle-jerks were absent, knee, biceps, triceps, and radial jerks were exaggerated, and abdominal reflexes were barely elicitable. The right plantar response was absent, but on the left side, where movement of the great toe was still possible, the response was unmistakably extensor. With regard to sensation the patient complained of a feeling of pins-and-needles in the legs. Vibration was impaired over hands and feet, and minor degrees of passive movement could not be appreciated in the affected digits. Vasomotor changes were apparent in the frequent coldness and cyanosis of extremities, whilst callosities under the great toes were the possible forerunners of trophic sores. The x-ray report indicated osteoporosis with claw-feet. The E.E.G. showed extensive abnormality with paroxysmal characteristics, the pattern consistent with the presence of widespread organic brain damage.

Case 3

It was not possible to examine this sibling, and repeated attempts to trace him through his normal sisters have been unsuccessful. He was the eldest, and if still alive, which is doubtful, would now be 47 years of age. It is recorded of him that he could not learn at school and that he was troubled with his feet and legs in the same way as his brother and sister. When last heard of he had been admitted to an institution as a case of creeping paralysis.

Discussion

The patients examined had peroneal muscular atrophy, with typical involvement of both upper and lower extremities and the mild sensory loss characteristic of the disease. In

both cases, and in the third sibling, whose description accords with the disease, mental defect of imbecile or low moron grade was an accompaniment. This was in striking contrast to the mental state of the physically normal members of the family. In Case 2 mental defect was noted, moreover, some considerable time before physical signs became apparent.

Additional features were present. In Case 1 there was extensive bilateral atrophy of the costo-sternal portion of the pectoralis major. Wasting of this muscle in peroneal muscular atrophy has been mentioned by Brain (1947). Both patients showed involvement of the face. This is not a common accompaniment, but its occasional presence has been remarked on by Kinnier Wilson (1940). The same authority records the incidental occurrence of nystagmus and epilepsy. In both cases earlier examination indicated abnormal plantar responses. With increasing atrophy of muscles, however, it is now only possible to elicit an extensor response unilaterally in one member. In this connexion Perkoff and Tyler (1953) have noted that certain pedigrees are characterized by spasticity and increased tendon reflexes, evidence of spinal cord lesions involving the pyramidal tracts. Ford (1952) has also recorded the occurrence of hereditary spastic paraplegia with peroneal muscular atrophy.

In the differential diagnosis various rare syndromes have to be considered. A similar distribution of atrophy occurs in familial hypertrophic polyneuritis, Gower's distal myopathy, and in the syndrome described by Roussy and Levy (1926). The lack of palpable thickening of the peripheral nerve trunks, the absence of ataxia, and the presence of such myopathic features as atrophy of the sterno-costal portion of pectoralis major and involvement of the facial musculature would appear to contraindicate familial hypertrophic polyneuritis. Sensory and reflex anomalies are sufficient to exclude Gower's distal myopathy, whilst the absence of cerebellar ataxia is against a diagnosis of the equally rare hereditary ataxia with muscular atrophy of Roussy and Levy.

Summary

Three out of five siblings have been recorded as having a progressive muscular wasting beginning in the feet and associated with marked mental defect. In the two cases examined the pattern was characteristic of peroneal muscular atrophy, with some additional features only occasionally described in the disease.

I am indebted to Dr. H. S. Atkinson, medical superintendent of the Manitoba School, for permission to make use of the institutional facilities.

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A move is being made to establish a national body to co-ordinate the work of societies concerned with the welfare of deaf children. A resolution to this end was passed unanimously at a recent conference in London of the Deaf Children's Society and other organizations working in this field. Delegates at the conference represented the Scottish Association of the Deaf (Edinburgh and Glasgow branches), the North Western Deaf Children's Association, the South Wales Parents' Association for Parents of Deaf Children, the Oxford and Districts' Association for Parents of Deaf Children, and the Herefordshire and Worcestershire Association for Parents of Deaf Children. A preliminary committee was formed to draw up a constitution and was given full terms of reference to deal with the setting up of the national body.

AN ALTERNATIVE APPROACH TO THE PROSTATE

PRELIMINARY REPORT

BY

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Since the introduction in 1945 of the retropubic operation for prostatectomy by Millin (1947) many surgeons have come to regard it as the standard procedure. That it had certain drawbacks, however, was shown by the continued use of the suprapubic and other routes by others. These various operations were well discussed by Winsbury-White (1948) and by J. Cosbie Ross (1954).

The two other most favoured alternatives to these operations are the perineal and per-urethral routes, each with its own complications and presenting difficulties of execution to any except the most expert.

It was found that the principal drawback to the retropubic operation was the difficulty in closing the capsule after removing the gland; this was not obviated when using a vertical incision into the prostatic capsule, as when it was opened the tension retracting the side of this incision caused the lower end of it to split down further and made it very difficult to close. Another drawback was the difficulty of seeing the ureters easily. The Wells operation was found to be much more satisfactory and simple to perform, except when securing haemostasis, when it was impossible to guarantee a good view of the prostatic bed; on the other hand, the ureters were easily seen and it was possible to inspect the interior of the bladder without the necessity of using a cystoscope beforehand.

Bearing this in mind, the procedure described below was adopted; this gives all the advantages of the Wells operation and also allows the same excellent view of the prostatic bed as is obtained in the Millin operation. Closure is easy, since the incision is a vertical one and can be closed with an ordinary needle-holder and half-circle needle; also, as is shown below, there is no tension that is likely to cause a split downwards at the bottom of the incision. Haemostasis is easier by this route than by any other tried.

Operative Procedure

Preparation for the operation is the same as that normally followed for prostatectomy. Catheterization should be kept to a minimum; therefore we do not routinely empty the bladder or cystoscope the patient. Unfortunately many of the patients were admitted with acute retention of urine, having already been catheterized several times. Intravenous pyelograms and blood chemistry estimations are carried out and arrangements for transfusion are made, although this last should not normally be necessary. Operation is carried out under general anaesthesia with the patient in the supine position; a slight Trendelenburg tilt is occasionally helpful, but not absolutely essential.

The usual skin incision is employed, preference being given to the transverse one, but there is no necessity to use this. The muscles are retracted and the peritoneum is pushed up in the normal way. Next, the bladder is freed below by swab pressure to display the puboprostatic ligament and the upper part of the gland. Then, while the bladder is gently drawn up by the pressure of a gauze swab, a thread suture is inserted to encircle the vein coming up on the front of the gland. The ligament should not be torn while this is done