fortably through the larynx is chosen. This is encased in a special armouring, described below. It prevents kinking, acts as a mouth-prop, and is firmly tethered by a tape tied round the neck. The wide-bore airway thus assured is desirable in all cases, and is essential to intracranial operations.

Directly the tube is in position it is connected to the machine and the flow of gas and of oxygen started. The flow-rate of gas is standard for all cases at 6 litres per minute. The flow-rate of oxygen is 2 litres per minute (giving a concentration of 25%) until spontaneous respiration has recovered to a normal depth, when it is reduced to 1½ litres per minute (giving a concentration of 20%). In the early stages it is seen from the movements of the bag on the machine that spontaneous respiration is inadequate. This is easily dealt with. The pressure on the expiratory valve is increased until, when the bag is compressed manually, the chest is seen to expand. Rhythmical manual compression of the bag is continued thus so long as it is necessary to assist respiration. This is rarely more than 10 minutes, often less than 5; occasionally compression is not necessary at all.

That the above method of dealing with the respiratory weakness is effective is shown, first, by the complete absence of cyanosis in all patients, and, secondly, by the fact that if it is performed vigorously the CO₂ concentration can be so lowered that temporary apnoea results.

Apparatus

1. The ordinary Boyle's machine with standard Magill's attachment consisting of bag, tubing, expiratory valve, and face-mask.
2. Magill's endotracheal tubes, connexions, and catheter mount.
3. A flexible metal tube with bell-shaped mouthpiece (Fig. 1). This is made by Medical and Industrial Equipment, Ltd., in two

FIG. 1.—A flexible metal tube with bell-shaped mouthpiece, for use with Magill's tubes.

sizes: a No. 10, which is suitable for use with Magill's tubes of size 10, 9, and 8; and a No. 8 for Magill's tubes size 8, 7, and 6. This device effectively prevents the tubes from kinking even when they are softened by repeated boiling, which is the most satisfactory way to sterilize them. It encases the Magill's tube only as far as the base of the tongue, and has four holes near its mouth-end, through which tape is threaded and tied firmly round the neck (Fig. 2). It has been in use for many months and has proved entirely satisfactory.

FIG. 2.—The apparatus in position.

4. The Macintosh laryngoscope is preferred to other models. It sometimes happens that the Magill's tube is deflected towards the oesophagus at a tangent to its curved blade. To overcome

this little difficulty various types of simple introducers have been used to direct the tip of the tube into the glottis.

Discussion

The merits of the method described are its speed, simplicity, and freedom from hurry; the absence of complicated apparatus and of bulky appliances near the operating field; the good relaxation; the absence of risk of explosion; and the rapidity of recovery and freedom from unpleasant symptoms.

It may be thought that there is danger in the immediate post-operative period of aspirating blood or other material owing to residual weakness from the curare and to insensitivity of the upper air-passages from the "cocainization." In practice it is generally found that both the cough reflex and the power to cough have returned by the end of the operation. The patient, however, is turned semi-prone with the head low to lessen this risk when it is present.

The surgeons on whose cases this method has been used have not reported any increased tendency to bleeding. The table is tilted 10 degrees, head up, to diminish bleeding whenever the operation allows.

Other agents are in use for procuring the initial relaxation for intubating. By some, thiopentone is used alone, while others add cyclopropane. But in my opinion there is no agent which is so quick, so certain, and so safe as curare.

Medical Memoranda

Bilateral Abductor Laryngeal Palsy in Syringomyelia

The under-noted case is worthy of record because it demonstrates the importance of laryngological examination in cases of nervous disease even when there is no disturbance of voice and involvement of the larynx is unsuspected.

RECORD OF CASE

A chaplain, aged 33, had for about seven years been aware of sensory disturbances in the hands and left leg. He noticed that when taking a hot bath the heat was not appreciated by the affected parts although temperature sensation was normal elsewhere. He paid little attention to these symptoms.

About three months previous to his present admission to hospital he had felt ill with headache and general malaise. Thinking that he had influenza, he reported to his doctor, who found that he had a temperature of 101°F. (38.3°C.), but no abnormality in throat or chest. It was then discovered that there was a large area of cellulitis over the posterior aspect of the right elbow. In a normal person this would have caused considerable pain, but, apart from the fever, the patient was unaware of its presence.

Neurological examination showed that the left leg was stiff on walking. There was marked muscular wasting of the left hand, and the grip was weak. The left eye had a small pupil and narrowed palpebral fissure (Horner's syndrome). Sensation for touch was diminished on both sides of the face and over the right side of the trunk. Appreciation of painful stimuli and of heat was lost over the chest, both arms, left side of the abdomen, and left leg. Knee- and ankle-jerks were more pronounced on the right side than on the left. Abdominal reflexes were present on both sides. An extensor plantar response was elicited on the left side. A diagnosis of syringomyelia was made.

The patient attended for rhinological examination on account of nasal obstruction and catarrh. One year previously the septum had been resected with improvement in nasal patency but little effect on the discharge. He had no complaint with regard to his voice, which in the exercise of his calling was of paramount importance to him. During the past month, however, he had noticed a tendency to become breathless on exertion.

Examination revealed a chronic infection of the right maxillary antrum, with pus in the middle meatus. There was pus in the right choana, and the posterior edge of the septum was markedly swollen. Palatal, pharyngeal, and lingual movements were normal. There was some diminution in sensation in the pharynx, but no

actual anaesthesia. Laryngoscopy showed the presence of bilateral abductor palsy. The cords, which were normal in appearance, approximated perfectly on phonation. On inspiration they barely separated, leaving a glottic chink surprisingly small to cause such slight symptoms. Deep inspiration, instead of widening the glottis, seemed rather to narrow it by sucking the cords downwards.

COMMENT

The occurrence of bilateral abductor palsy in syringomyelia receives but scant attention in the textbooks. The fact that laryngeal palsies are caused by this condition is mentioned, but no details are given. It is evident, however, that the presence of a bilateral abductor palsy affects the prognosis in this particular case to a considerable extent. Not only does it show that the disease has extended to the bulb (syringobulbia) but there is now liability to sudden severe dyspnoea, which might demand tracheotomy.

The chronic nasal sinusitis predisposes to attacks of laryngitis with consequent narrowing of an already dangerously obstructed glottis, and the performance of tracheotomy as a precautionary measure must be seriously considered.

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Hypertrophica Musculorum Vera

In view of the rarity of the adult type of paradoxical muscular hypertrophy it was felt that the following case might be worthy of record.

CASE HISTORY

The patient, a youth of 19, joined a Naval training establishment in February, 1946, for the first stages of ordinary seaman's training. He first reported sick two weeks later, complaining of cramp-like pains and weakness in the muscles of the legs and thighs. These symptoms were brought on by exercise such as physical training and marching "at the double"; cramps occurred very occasionally at rest, but were always of slight severity. At first the symptoms were ascribed to the over-use of unaccustomed muscles—a not infrequent cause of muscular aches and pains in the early weeks of training. The patient persisted with his complaints, however, and was admitted to sick quarters for investigation.

On admission he gave a history of acute nephritis four years previously; there were no other illnesses. Shortly after his recovery from the nephritis he noticed pains and weaknesses in both legs, which limited the distance he could walk with comfort. At school his athletic performance was average and he achieved some notoriety by reason of his physical strength. He had had several jobs, first as a labourer, and stated that more recently he had sought lighter occupations because of his disinclination for heavy or prolonged work. He gave a family history of the death of his father and three paternal uncles before the age of 30, but unfortunately no details whatever of these cases could be obtained.

On examination he was found to be a healthy-looking youth of rather stout build and showed no abnormality of the cardiovascular or respiratory systems. Kidney function was normal. There were no abnormal signs in the nervous system, all reflexes being present, movements well co-ordinated, and all forms of sensation unimpaired. No fibrillary twitching was observed. There was marked bilateral hypertrophy of the muscles of the calves, quadriceps femoris group, glutei, and forearms. The muscles were firmer than normal in the relaxed condition, and hard on voluntary contraction. Power did not appear to be greatly lacking, though it was less than the general development would have led one to expect. Various laboratory investigations were carried out, but the only abnormal finding was creatinuria to the extent of 1.04 g. in a 24-hour specimen.

COMMENT

This seems to be a case of hypertrophica musculorum vera. It is a very rare condition which occurs mostly in adult males, and shows muscle hypertrophy of a varying distribution, usually without perceptible nerve lesions. It differs from the commoner pseudo-hypertrophic type in having a later age incidence and also in showing an early stage of true hypertrophy with subsequent loss of power as in Spiller's (1913) cases. It was unfortunate that no detailed family history could be obtained. In Barnes's (1932) detailed report of a myopathic family there were many cases of a similar type; he found the age of onset to be mainly in the 35–40-year group, but there was a late juvenile onset in a few instances. The above case appears to be in the early stages of loss of muscle power. The condition is slowly progressive, and finally shows heroic muscular development with paradoxically reduced contractile power and fatigue endurance.

Creatine is excreted normally in the urine of infants and children of both sexes up to the age of puberty. It occurs intermittently in the urine of women, and continuously through pregnancy and the period of involution. It is absent from adult male urine except for occasional traces. Creatinuria may occur in the myopathies and in conditions of unusual breakdown of muscle tissue or increased general metabolism—for example, starvation, diabetes, exophthalmic goitre, and fever.

I am indebted to Surg. Capt. J. G. Boal, R.N., medical officer in charge of a Royal Naval sick quarters, for permission to publish this case, and to Dr. Macdonald Critchley, consultant in neurology to the Royal Navy, for his advice.

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Invaginated Meckel's Diverticulum containing a Tumour, with Associated Intussusception

New growth arising in a Meckel's diverticulum is a great rarity (Edwards, 1939) and intussusception due to invagination of a Meckel's diverticulum is an infrequent occurrence. Harkins (1933) was able to find 49 recorded cases of tumours of Meckel's diverticulum, and in a survey of 114 cases of intussusception due to invagination of the diverticulum he found a tumour present in 26. Milroy Paul (1939), recording a case, quoted 15 additional cases of invagination with intussusception, but in his case there was no tumour and he did not mention a tumour as being present in the other 15 cases. It therefore seems worth while putting on record the following case of an invaginated diverticulum containing a tumour and causing intussusception.

CASE REPORT

An apprentice carpenter aged 16 was admitted to Llandough Hospital on March 28, 1945. He gave a history of colicky abdominal pain with attacks of vomiting over a period of about 26 hours. The bowels had been opened the day before admission, but no blood had been passed per rectum. His general condition was good, with the temperature 99.6° F. (37.55° C.) and the pulse rate 96. A small tender mass was palpable in the right iliac fossa and there was tenderness on the right side on rectal examination.

Operation was performed an hour after admission, the abdomen being opened through a McBurney incision. Free clear yellowish fluid was present in the peritoneal cavity. A mass presented in the incision and on delivery proved to be a loop of intussuscepted ileum. The intussusception, which was about 1 ft. (30 cm.) in length, was easily reduced by the usual technique, but it was then found that the apex of the intussusception had been occupied by an inverted Meckel's diverticulum. Reduction of the latter was difficult, but it was eventually accomplished. The diverticulum was found to be about 2 in. (5 cm.) in length, and at its apex was a firm mass about the size of a hazel-nut. Diverticulectomy was performed and was followed by appendicectomy and closure of the abdomen. Convalescence was uneventful, and the patient was discharged from hospital 12 days later.

Microscopical examination showed that the mass in the diverticulum had the appearance of a submucous lipoma, some parts of the covering epithelium having desquamated.

I wish to express my thanks to Dr. A. E. Carragher for examining the excised specimen.

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The increasing number of women pharmacists was referred to at a dinner given by the National Association of Women Pharmacists in honour of the election of Mrs. J. K. Irvine, M.B.E., as first woman president of the Pharmaceutical Society of Great Britain. Mrs. Irvine said she had met women pharmacists from ten countries, including Turkey, Palestine, and Iran, at the recent meeting of the International Pharmaceutical Federation in Zurich. Mr. H. C. Shaw, the Society's vice-president, added that in the next generation we should probably have more women pharmacists than men. He asked them therefore to take a long-range view so that the next generation of pharmacy would be better than ours.