

outwards from the fixation-point. These latter fibres, from their central position in nerve and chiasma, would be well protected from injury. In addition, a number of fibres destined for the *left* optic tract are also implicated—viz., those corresponding to the lower and mesial sector of the right half of the visual field.

## EARLY ETHER ANALGESIA.

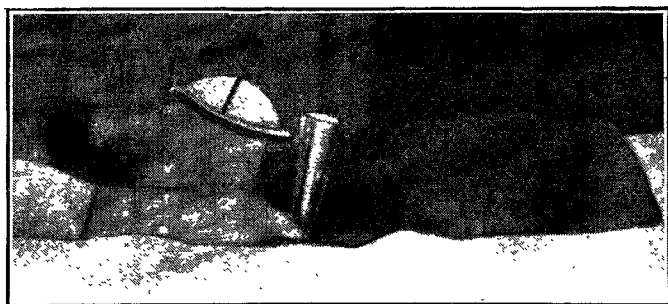
By D. P. D. WILKIE, M.D., M.CH. EDIN., F.R.C.S. EDIN.,  
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THE question of the choice of anæsthetic for minor operations is one of perennial interest, but never more so than in war time, when, in the Services, minor operations acquire a new and peculiar importance. For the class of case for which a local anæsthetic is unsuitable—e.g., in dealing with inflamed tissues, and where a very brief though painful operation is necessary—such anæsthetics as nitrous oxide and ethyl chloride are commonly employed. In hospitals the apparatus required for the administration of these anæsthetics will practically always be available. Such is not the case, however, on active service on board ship or in the field, where the medical officer must, like the general practitioner, use methods which do not involve any cumbersome apparatus. For him it remains to decide between chloroform and ether, with the disadvantages associated with full surgical anæsthesia in the case of both these drugs.

For the past few years I have used ether as the anæsthetic in such cases, but have taken advantage of the transient stage of analgesia which supervenes when ether is supplied abundantly, long before the patient could be said to be "under" in the ordinary sense of the word. I have found this method of anæsthesia exceedingly useful, as it is time-saving and perfectly free from danger.

In the text-books on anæsthetics which I have consulted I can find no reference to this method of employing ether

FIG. 1.



Materials required for inducing early ether analgesia: the Schimmelbusch mask, a measure containing 3 drachms of ether, and a hand-towel folded double.

for minor operations. The only reference I have found to this early stage of analgesia under ether is in Buxton's book on anæsthetics, where, in describing the "second stage" of anæsthesia under ether, the author states that "semi-anæsthesia exists, and pain even if slightly felt is seldom remembered as pain upon awakening." He points out that this is probably the degree of anæsthesia of which Péan wrote when he described patients who moved freely and appeared conscious, but were nevertheless oblivious to the surgeon's knife. During the war, whilst serving in the navy, I have been able to give this method a thorough test and have endeavoured to standardise its use, and now feel in a position to recommend it with confidence to the profession.

In making practical use of this transient phase of analgesia certain conditions are essential for uniform success. The ether vapour must be given concentrated from the start, and the patient must inspire regularly and fairly deeply. Neurotic and unwilling patients are therefore unsuitable.

The only apparatus required is a Schimmelbusch mask (preferably the modified form described below), also a towel and a receptacle which will hold 3 drachms of ether. The

part to be operated upon having been cleansed and the operator being ready with the necessary instruments to hand, an ordinary hand-towel folded double is laid across the patient's neck and chest, the mask is placed over his nose and mouth, and the ether (3 drachms) is measured out in readiness to pour on to the mask. (Fig. 1.) The patient is warned to breathe quietly and deeply as soon as the ether is applied to the mask. At a signal from the surgeon that all is ready the whole quantity of ether (3 drachms) is poured over the mask and the folded towel brought over the face and mask and kept closely applied. (Fig. 2.) It will be found that in from 30 to 50 seconds, provided that the patient breathes regularly, the stage of analgesia has set in and will last from 50 seconds to 3 minutes, the usual duration being slightly less than 2 minutes. During this period the patient will usually remain quiet, even though inflamed parts are being forcibly dealt with, as, e.g., in removing a septic ingrowing toe-nail; occasionally he

FIG. 2.

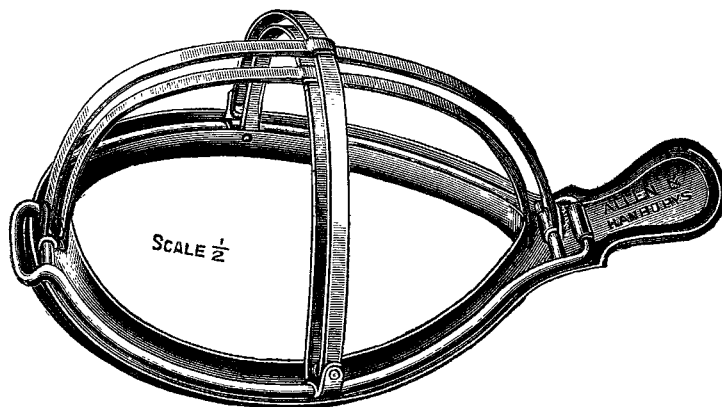


The analgesia induced: the 3 drachms of ether have been poured over the mask, the folded towel brought over and kept closely applied.

will shout, though remaining quite still. This may be disregarded, as on recovering a few moments later he will state that he has felt no pain. Within one minute of completing the operation the patient is usually awake and is always in the best of humour, the ether having acted as a pleasant stimulant. He is able to walk out of the theatre and to take a meal shortly afterwards. There appear to be no unpleasant after-effects.

In administering the ether with the ordinary Schimmelbusch mask, it was found on applying the towel over the face and mask that some of the ether was absorbed by the towel and thus partly lost. The modified mask, which has two extra folding supports to keep the towel off the lint which is soaked with ether, is a distinct advantage. (Fig. 3.) It is supplied by Messrs. Allen and Hanburys, Wigmore-street, London, W., and will be found useful for the administration

FIG. 3.



A modified Schimmelbusch mask, with two extra folding supports to keep the towel off the ether-soaked lint.

of ether by the "open" method when full surgical anæsthesia is desired, a piece of Gamgee tissue with a central hole being laid over the outer hoops, thereby preventing the too rapid evaporation of the ether without soaking up and wasting the drug.

The following short list of cases given in tabular form, showing the length of time used in the induction of analgesia and the duration of analgesia, gives also an idea

of the type of minor operation for which this form of anaesthesia is suitable.

*Table showing Length of Time taken in the Induction and Duration of Analgesia.*

Operation.	Time taken in induction of analgesia.	Duration of analgesia.		Remarks.
	Seconds.	Min.	sec.	
Multiple abscesses of neck; incision and scraping.	35	1	45	Complete analgesia.
Removal of septic ingrowing toe-nail.	40	2	0	"
Circumcision.	35	2	0	"
Removal of septic ingrowing toe-nail.	70	1	30	Shouted loudly; no pain felt.
Bubo; incision and scraping.	50	1	0	Complete analgesia.
Cutting off projecting portions [of two phalanges with bone forceps.	35	2	0	"
Incision and scraping of axillary abscess.	30	1	45	"
Removal of two septic ingrowing toe-nails.	45	2	30	"

I am indebted to Dr. Matheson, temporary Surgeon R.N., for kindly taking the photographs.

## Clinical Notes:

### MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

#### TWO CASES OF THORACIC ANEURYSM.

BY GEORGE J. CONFORD, M.D. OXON.

THE aortic arch is recognised as the most usual situation for the development of aneurysm, but it is somewhat remarkable to have found the same unusual cause of death in two successive post-mortem examinations, while death had taken place in an exactly similar manner in both cases.

CASE 1.—The patient was a sailor on a lightship, aged 53 years, who had not complained of feeling ill until the moment of his fatal seizure. On the evening of Dec. 26th, 1915, while at supper, he complained of sudden pain in the chest. His companions, seeing him turn very pale, gave him some brandy and laid him on a seat, but he died almost immediately. A post-mortem examination was made by the coroner's order and the following conditions were revealed. On opening the thorax the right pleural cavity was found full of clear serum and blood clot, there were no pleuritic adhesions, and the lung was moderately collapsed but otherwise normal. The aorta was enlarged, the ascending part of the arch being converted into an irregular somewhat fusiform sac, more prominent posteriorly. Rupture had occurred at the posterior part of the sac near the origin of the innominate artery, and the mediastinal connective tissue was infiltrated with tough semi-organised blood clot, showing that oozing had been going on for some little time before the final catastrophe. There is no record of any symptoms during life, and no physical examination had been made, as the man never had occasion to consult a medical practitioner for years past.

CASE 2.—The patient was a soldier aged 33 years. So far as could be ascertained he had never suffered pain or inconvenience until five days before his death, and presumably there were no abnormal physical signs, as he had recently been examined before readmission to the army. On Feb. 15th he complained of occasional difficulty in swallowing and had attended at the sick inspection room on this account. On the 20th he had been carrying a scuttle of coals, and on returning to his hut sat down on a bench and complained of sudden severe pain in his chest. He rolled over on to his back, and the medical officer was summoned, attended at once, but found him dead. An order for a post-mortem examination was given by the coroner and was made by me at the request of Dr. W. R. Etches, the regimental medical officer. The right pleural cavity was found full of serum and blood clot, as in the previous case, but the aneurysm was situated at the lower part of the transverse portion of the aortic arch, was irregularly sacculated in shape, and the walls were very thin in parts. The interior of the sac was irregularly ridged, and

perforation had occurred at the periphery of a small secondary projection jutting out from the posterior part of the main sac. Blood clot had infiltrated the mediastinal connective tissue, but was apparently quite recent and less tough than in the previous case. The aneurysm must have pressed upon the trachea and oesophagus, but presumably only lightly, as the dysphagia had only been occasional, and there had never been any dyspnoea. There was no alteration in the voice or other evidence of pressure on the recurrent laryngeal nerve. There was some evidence of syphilis in this case in the form of scars, almost certainly of specific origin. In neither case was there any marked degree of cardiac hypertrophy.

The similarity of these cases in their termination, the complete absence of premonitory symptoms in the first and the slight previous evidence of illness in the second, appeared of sufficient interest for me to place them on simultaneous record.

Felixstowe.

#### A CASE OF PERFORATED TYPHOID ULCER OPERATION; ACUTE OBSTRUCTION; OPERATION; RECOVERY.

BY F. M. NEILD, M.B., B.S. LOND.

A SUCCESSFUL case of operation for a perforated typhoid ulcer is scarcely worth recording, if it were not for the fact that acute obstruction took place nine days after, necessitating a further operation which was also successful.

The patient, a Portuguese half-caste boy aged 10, miserable, thin, and looking half-starved, was said to have been always delicate. He had a mild attack of typhoid lasting from Jan. 25th to Feb. 9th, 1915; Widal reaction positive. After the temperature had been normal for nine days he had a severe relapse and became extremely ill. In the early morning of March 9th he was seized with severe pain in the abdomen and vomited several times. The sister (nun), however, did not send for me, and I only saw him at 10 A.M. on my usual round. The temperature was 103° F., pulse 102; the abdomen was rigid and extremely tender, while the liver dullness was absent.

Operation took place at 12.30 P.M., about eight hours after the perforation took place. A small perforation was found about 1½ feet from the ileo-caecal valve; this was closed by a purse-string suture. There were no signs of peritonitis except for a few shreds of lymph near the perforation. A quantity of brown fluid was removed from the pelvis by dry sponging. The boy's condition was very poor, so the wound was closed with through-and-through silkworm-gut sutures, a rubber drainage-tube being left in the lower end of the wound leading down into the pelvis. The same evening he was very collapsed; temperature 96°, pulse 140 and very feeble; but he rallied with subcutaneous injections of saline and camphorated oil. There was great difficulty in getting the bowels to move, and for the first two days no flatus was passed, and then only after the passage of a long rectal tube. The drainage-tube was removed on the third day. The bowels moved naturally on the fourth day and then every day once or twice until March 18th. The stitches were removed on the 16th; owing to tension there was a good deal of sloughing and pus was oozing from the stitch holes.

When I saw him on the morning of the 18th he seemed to be in great pain and had been vomiting continuously for several hours. Temperature 97°; pulse 140, very small and feeble. The abdomen was distended, but not markedly tender. An enema produced no result and no flatus was passed after the passage of a rectal tube. Operation was decided on, but a very gloomy prognosis was given, especially on account of the condition of the external wound. The anaesthetic was ether, given by the open method. The old wound was opened up. The bulk of the small intestine was distended, but in the right iliac fossa a collapsed portion was seen, a band of omentum passing down towards this. On pulling up the bowel the obstruction was released, and gas at once passed into the collapsed intestine. The exact mechanism of the obstruction could not be seen, but it occurred at the site of the perforation. The bowel wall here was denuded of peritoneum to a small extent. This denuded area was closed over with Lembert sutures. The abdominal wound was completely closed without drainage by through-and-through stitches. The operation only lasted 15 minutes from start to finish. His condition immediately afterwards was much better than before and no further vomiting took place. Flatus was soon passed, and the bowels were moved with castor oil on the second day. The day following operation the patient was clamouring for food. There was scarcely any rise of temperature after the operation. The stitches were removed on the tenth day and recovery was uninterrupted.

Shanghai.