creates a feeling of suspicion and possibly alarm, and therefore it is always wiser that he be taken into the confidence of the surgeon, and assured that the passage of the tube will not cause pain or unusual discomfort. With such assurance and a free though careful use of cocaine it will be the exception to find a patient who cannot be examined by the direct method. If in spite of these precautions there be excessive irritability of the pharynx and larynx, so that much retching or spasm is caused by the attempt to pass the tube-spatula, this may be almost entirely overcome by a previous injection of from 1-6th to 1-8th grain of morphia combined with 1-200th grain of atropine.

The large field of usefulness opened up by the direct method of examining the lower air passages.—The foregoing cases are sufficient to illustrate the wide field of usefulness which the direct method has already placed within our reach and the comparative ease with which pathological conditions can be examined and treated. How difficult it has been in the past to obtain a clear view of an ulceration, constriction, new growth, or foreign body in the trachea is only too well known to laryngologists who have been hampered by an overhanging epiglottis, a resistant tongue, an irritable larynx, or a conformation of the parts which has prevented them from obtaining a complete view of the subglottic regions. To-day, and thanks to the genius of Professor Killian and the mechanical ingenuity of Dr. Brüning, these difficulties are scarcely worth consideration, and it is possible to examine the lower air passages with the same accuracy as we investigate the tympanic membrane, the interior of the nose, the cavity of the naso-pharynx, and I should imagine with far greater ease than the surgeon examines the internal surface of the bladder with the cystoscope.

How far the direct method may influence the surgery of the lung is a matter which the near future may decide. Killian has demonstrated on the living subject¹ the possibility of passing long tubes of small calibre through the bronchial tubes until the neighbourhood of the lung surface has been reached. His skiagrams have placed this fact beyond dispute. Such being the case, it may be possible, as he has pointed out, to explore and even to treat diseased pulmonary foci which have a direct opening into a bronchial tube, or to materially assist the surgeon who undertakes pneumotomy by so locating the diseased area that the surgeon may be able to cut down on a probe or fine tube which has been passed downwards through the larynx and trachea.

In this short communication I have endeavoured briefly but imperfectly to outline the leading features in the construction and the use of this instrument for the direct examination of the lower air passages and œsophagus, and my object is to popularise the use of the direct method by general surgeons and physicians, for it does not need the long apprenticeship and opportunities for practice which are demanded from those who aim at intralaryngeal dexterity in the restricted and reversed field of the laryngoscopic mirror.

There can be no doubt that Brüning's modification of Killian's instrument will enable us to deal more successfully than in the past with simple intralaryngeal growths, ulcerations, infiltrations and other pathological conditions, because the hand of the surgeon will be guided by direct vision in a well-illuminated field, and still more will this be the case in affections of the trachea, which have always been difficult to see, while the topical application of remedies has frequently been somewhat in the nature of "a shot in the dark."

It must be obvious to all that the direct method is the one to be chosen for the location and attempted removal of foreign bodies in the lower air-way, and in this class of case its success has been nothing short of a surgical triumph.

To rescue a child or adult from imminent death by suffocation by means of a bloodless operation, and to restore him to his home in the course of a few hours, must be the joy of a life-time given only to a few. But the delightful consciousness of possessing such a power may be shared by all those who will devote a little time, patience, and gentleness to mastering the details of the technique as outlined above. Then, and perhaps even before we might have expected it, the opportunity for the practical application of our knowledge may chance our way.

ON A REMARKABLE CASE OF VENOUS ACCOMMODATION AFTER COMPRESSION OF THE SUPERIOR LONGITUDINAL SINUS BY A GLIOMA.

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DR. PHILLIPS'S REPORT.

A FEMALE, aged about 25 years, was admitted into Kasr-el-Aini Hospital, Cairo, on March 2nd, 1908, suffering from hemiplegia on the left side. She was a married woman and had borne children. About three years ago, a few days after an easy labour, she suddenly became unconscious and on recovering consciousness she found that her left arm and leg were paralysed. She also from time to time felt pain in these limbs. There was no history of syphilis or of any other disease of importance. She was a woman of small build and she lay in bed with the left arm and leg contracted. With regard to her nervous system, on admission she was quite conscious and answered well when spoken to. Her memory was good, she articulated correctly, and she could count properly. She lay quietly in bed, she had no delusions, and she was neither excited nor depressed. She could move her eyes in all directions and there was neither squint nor nystagmus. The pupils seemed to be dilated but owing to old trichiasis the corneæ were opaque like ground glass. She was unable to see and there was no perception of light. The corneal reflex was present. The left elbow-joint was flexed and the left hand was tightly contracted with flexed fingers. The left hip- and knee-joints were also flexed. She could not move these limbs and any attempts to extend them caused much pain. The knee-jerk was exaggerated on the left side, the supinator and wrist jerks were brisk, and there was ankle clonus on the left side. The plantar reflex was extensor on the left side and flexor on the right. There was no anaesthesia or analgesia; hearing and taste were present but she had apparently lost the sense of smell and, as already stated, she was blind. She was drowsy when left alone. She had control over the bladder and the rectum. The scalp showed a remarkable anastomosis of dilated veins which Professor Elliot Smith has described in his report in full. Her appetite was good, there was no vomiting, and the bowels acted once or twice a day. The tongue was abnormally red and the back part was furred. The heart sounds were normal but the pulse was rather infrequent. The urine was 1020, acid, with traces of albumin. The temperature on admission was 37.5° C.

A diagnosis was made from the history of cerebral embolism, the result possibly of some septic trouble after parturition. The absence of headache, the intelligent speech on admission, and the absence of vomiting and constipation seemingly precluded cerebral tumour. The optic discs could not, unfortunately, be examined on account of the state of the corneæ. (Post mortem the discs were found to be atrophied). She was treated with iodide of potassium and as she passed an ascaris she was given santonin. She generally lay in bed curled up with the clothes over her asleep, getting increasingly drowsy as time went on. Her temperature varied somewhat irregularly between 37° and 37.5° C. On March 11th she developed stomatitis which gradually increased and made articulation painful; she lost her appetite and her bowels acted daily from two to four times. She wasted and, gradually sinking, died on April 15th. Certain of the scalp veins became thrombosed during the last 24 hours. The post-mortem examination was performed by Professor Elliot Smith.

PROFESSOR ELLIOT SMITH'S REPORT.

At the request of Dr. Phillips I saw the patient in hospital on March 4th. The scalp exhibited a series of large vermiform projections obviously venous in nature arranged in a most extraordinary pattern. Emerging from the right

¹ Journal of Laryngology, December, 1906.

parietal foramen there was a large vessel more than a centimetre broad which discharged its blood partly into small veins passing sagittally backwards into the occipital vein but mainly into the superficial temporal veins. When the patient was lying down the occipital vessel disappeared as the result of the pressure of the head on the pillow stopping the flow of the blood, and the temporal outlet became more engorged. It then could be seen that some of the blood escaped from this large vessel into the left temporal veins also. But the main outlet for the intracranial blood was not provided by the vessel in the parietal foramen but by a vein which escaped from a hole in the antero-mesial corner of the right parietal bone, close to the sagittal suture and just behind the bregma. The hole in the bone was big enough to admit the fleshy part of the tip of the finger. Through this emerged a thin-walled vein which at once became greatly distended and passed into a large vorticose mass alongside the upper end of the coronal suture. This varix was 25 millimetres wide. From it emerged two efferent channels, a very large vessel (17 millimetres wide) passing directly forwards to pour its blood into the supra-orbital vein and another passing outwards to join the vessel coming from the parietal foramen and discharge the contents of both into the superficial temporal. The left superficial temporal vessels were also enlarged and received part of the blood coming from the parabregmatic varix.

This case especially interested me, because for some years I have been studying the effects of the growth of the large retrobregmatic group of Pacchionian bodies, which is frequently particularly well developed in the people coming from the Balkan Peninsula. There could be no doubt that this case afforded an example of a complete perforation of the cranial wall opposite the right group of these Pacchionian bodies and the establishment of an anastomosis between the veins of the scalp and the dilated upper end of the middle meningeal vein which forms the *lac sanguin* (Trolard) surrounding these bodies.

On the death of the patient Dr. A. R. Ferguson, professor of pathology in the Cairo School of Medicine and pathologist to the Kasr-el-Aini Hospital, kindly permitted me to

FIG. 1.

General view of external surface of skull.

make the necropsy. Just before the death of the patient the blood clotted in the group of veins in communication with what we may call the bregmatic emissary vein, so that these vessels stood out as a prominent mass naturally injected (see Fig. 1). The posterior parietal veins were empty, no clotting having occurred in them. Even before the skin was

reflected from the scalp we could see, in addition to the great bregmatic ridges passing into the frontal and superficial temporal veins, a great network of small anastomosing vessels occupying the whole space between the lower ends of these two distended trunks. This was much more pronounced on the right side of the forehead than on the left. The arrangement of the main trunks emerging from the retrobregmatic foramen (Fig. 1, B) and the right parietal foramen (PAR. FOR.) respectively is shown so diagrammatically in Fig. 1 that no further account is necessary. When the cranium was opened a large tumour of about the size of a cricket ball was found growing from the right cerebral hemisphere. The tumour was 67 millimetres broad, 63 millimetres deep, and 64 millimetres in the sagittal direction. It had grown from the neighbourhood of the dorso-mesial edge of the right hemisphere immediately in front of the upper end of the fissure of Rolando (sulcus centralis). The homologous area in the left hemisphere is shown in Fig. 2 (the left

FIG. 2.

Tumour lying in the brain. The left hemisphere is on the right side, the drawing having been made from the anterior surface of the section.

hemisphere is on the right side of that diagram) marked X with its edges shaded. The corresponding points at the margins of the tumour in the right hemisphere and the healthy left hemisphere (on each side of X) are marked with distinctive signs (* and †). Fig. 2 shows the amount of disturbance of the brain produced by the tumour and also the manner in which it has compressed the superior longitudinal sinus (S) and completely occluded its lumen. The place where this section is cut is marked in Fig. 1 by an asterisk (*), which corresponds also to the spot where the thinning of the skull produced by pressure of the tumour is greatest. The section of the brain passes through the corpora mammillaria. Fig. 3 is a diagram of the outline of the right hemisphere seen from above, showing the extent of the tumour and the mass of large veins surrounding it.

Professor Ferguson reports as follows: "The tumour is a glio-sarcoma. It is mainly composed of dense collections of rounded, slightly angular glial cells with large nuclei. They are arranged in large dense masses, the margins of which run off into more scantily cellular and finely meshed neuroglial tissue. Vessels are comparatively numerous but everywhere small, with delicate walls. Occasional interstitial hæmorrhages exist but not to the extent usually seen in glio-sarcomata of such a cellular character." When the tumour pressed on the superior longitudinal sinus and stopped the flow of blood the pressure became raised in the large vessels coming from the anterior half of the hemispheres to the parasinoidal sinuses and especially the retrobregmatic *lac sanguin*. The skull became eroded by pressure and the rupture of the *lac sanguin* established an outlet into the scalp veins (Fig. 1, B). The right hemisphere, pushed backwards by the tumour, compressed the superior longitudinal sinus a second time at the lambda (notice the area of thinned bone in

Fig. 1 as evidence of the pressure) and the blood escaped by the parietal foramen. The extensive erosions of the frontal and parietal bones (Fig. 1) destroyed a large part of the system of diploic veins, but one of these vessels—the posterior or parietal branch of the temporo-parietal diploic vein—became greatly enlarged (Fig. 1) and some of the blood from the chain of large vessels encircling the tumour (Fig. 2, v, and Fig. 3) found an outlet at the point marked *

FIG. 3.

Showing the ring of veins around the growth.

(Fig. 1) into this vein, which carried its contents to the mastoid foramen and there disgorged it into the posterior auricular vein. The absence of the sense of smell is due to congenital deficiencies in the hippocampus and pyriform lobe. In addition there were old lesions of that part of the hippocampal gyrus, which I have called paradentate, which reduced this cortical area to a thin sheet of fibrous membrane.

Cairo.

"SUTIKA," THE PUERPERAL DIARRHŒA OF BENGAL.

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IN my report on plague in Calcutta for 1904-05 I referred to a form of chronic diarrhœa with fever occurring in puerperal women which caused a considerable number of deaths. Subsequent investigations have shown that the mortality from this disease is larger than was at first reported. For the year 1906-07 we have records in Calcutta of 228 deaths from "sutika," 196 from puerperal fever, and 80 from childbirth. Before proceeding further it is necessary to state that 90 per cent. of the deaths which occur in the city are uncertified by any responsible medical authority. The causes of death as given by the friends and relatives are not, however, depended upon and a staff of medical inspectors is maintained for the purpose of making inquiries into the particulars of every death. From the reports furnished by the inspectors I accept or alter the causes of deaths (as first given at the several burning ghâts and burial grounds) and it is from these reports that I have been

able to collect particulars concerning this disease. Being inquiries made after death they are naturally defective in details, but I do not think there is much doubt about the main facts brought out from them.

We have, then, a large number of deaths amongst women after childbirth amounting to over 1·3 per cent. on the total number of registered births (17,000) due to a disease characterised by the following symptoms. Diarrhœa generally commencing within two or three weeks after delivery, but sometimes later, without blood or mucus in the stools, and unaccompanied by any pain in the majority of cases. The stools vary from five to 15 a day, are sometimes described as watery in character, at other times as frothy and fermenting. In some cases dyspeptic symptoms are noticed and in nearly all there is loss of appetite. There is no vomiting or cough and there are no symptoms pointing to pelvic mischief. Along with this diarrhœa is an irregular fever, but details concerning it are wanting, except that it commences the illness and seems to last throughout it. Debility and emaciation seem to occur early and exhaustion seems to be the final cause of death. A late symptom is œdema of the feet, which seems to occur in a large proportion of cases. The negative symptoms are important. There is no vaginal discharge or other sign of pelvic disease, there are no griping or tenderness of the abdomen (except in a few cases), and no vomiting. The previous state of health is reported as having been good in the majority of instances. The course varies. Sometimes it seems rapid, the symptoms are more intense, and the patient dies within a few months. In other cases the illness drags on for over 12 months. The average is from five to eight months. What the case mortality is I have no means of knowing. The disease seems to occur in women of all ages and equally amongst Hindus and Mahomedans. The following table shows this:—

Deaths from "Sutika," 1906-07.

Age.	Hindus.	Mahomedans.	Total.
Under 15	2	1	3
15 to 19	27	12	39
20 to 24	35	16	51
25 to 29	39	21	60
30 to 34	32	11	43
35 to 39	14	5	19
40 and over	8	5	13
Totals	157	71	228

In the Calcutta population Hindus are in proportion to Mahomedans as 2 to 1. Compare these figures with those for puerperal fever during the same period.

Deaths from Puerperal Fever, Calcutta, 1906-07.

Age.	Hindus.	Mahomedans.	Total.
Under 15	8	2	10
15 to 19	27	15	42
20 to 24	34	19	53
25 to 29	23	21	44
30 to 34	22	10	32
35 to 39	4	3	7
40 and over	4	4	8
Totals	122	74	196

This gives a death-rate of 1·2 per cent. in addition to the rate from "sutika." The deaths connected with childbirth due to other causes amounted to 90, so that, apart from this ill-understood disease "sutika," childbirth in this city is accompanied with a death-rate of 1·7 per cent. The disease is recognised by some of the native practitioners, but its cause is unknown. I have not heard of any case amongst Europeans. Practitioners in other parts of Bengal inform me that it occurs in several other towns. The diagnosis seems fairly clear, but the pathology is a mystery. It is certainly not ordinary puerperal fever, it is equally certain that it is not dysentery, and there is no indication that it is due to tubercle. As health officer I have no opportunity of studying these cases clinically nor with regard to treatment and I therefore publish this note solely as a small epidemiological study. I should be glad to hear whether cases of this character occur in other parts of the world.

Calcutta