DETAILS OF LOCAL AND GENERAL TREATMENT

For the maxillary antrum the purely intranasal opening under the inferior turbinate, if of sufficient size, will usually suffice, and in this connexion I should like to say that the inferior turbinate should be left intact, or only the smallest portion of its lower border near the anterior end removed. I seldom find it necessary to resort to the Caldwell-Luc operation, and I actively dislike the Denker and Canfield operations, as I can see no reason for the destruction of the anterior angle that these operations seek to encompass. I regard the treatment after the intranasal operation as of importance. It may be summed up in the word—inactivity. In other words, I do not believe in washing out the cavity, but prefer it to drain naturally through the opening provided. If the discharge does not diminish with sufficient rapidity, and it is thought that lavage might help, the solution used should be an oily one. General tonic treatment and the use of sufficient alkalis to keep the urine alkaline will help the resolution of inflammation.

In recent years the question of chronic infection of the ethmoidal labyrinth has received a great deal of attention, and our views about it have undergone alterations that have somewhat disturbed previously accepted ideas. I am accustomed to recognize two forms:

1. The hyperplastic type with polypus formation.
2. The suppurative type.

As both types vary in extent and in severity, so, naturally, does the treatment required for their relief. The basic principles of aeration and drainage for the successful treatment of all sinus infection, however, hold here as elsewhere, and I regard it as important to remove the middle turbinate, more particularly the high anterior part that overhangs the infundibulum, and thus to free the approach to the cells. In mild cases the prolonged application of tampons of 10 per cent. argyrol in glycerin may effect a cure in hyperplastic cases, whilst in others the whole polypus-bearing area will require to be removed. The suppurative cases, again, vary in degree, and so does the extent of treatment. Sometimes after removal of the middle turbinate a very limited removal of particular cells will effect a cure, whilst in others the complete exenteration of the whole labyrinth by intranasal operation, or even by the approach afforded by an external incision, may be necessary.

Suppuration in the frontal sinus presents a variety of problems and an infinity of possible solutions to them. Our endeavour should be to provide the aeration and drainage, and then to be as conservative as possible, always remembering, however, that in the vast majority of cases the anterior ethmoidal cells are also involved, and that the treatment of the ethmoid is the key to the frontal sinus.

As regards the variety of methods of intranasal approach I will only say that they demand considerable experience and some operative skill. I am not in favour of cutting or rasping the fronto-nasal duct, owing to the tendency to new bone formation and recurrence of obstruction. I believe that if the region of the infundibulum can be cleared of cells and the approach to the ethmoid freed, the dilatation with metallic sounds will often be sufficient to effect a cure. In intractable cases in which an external operation seems to be indicated I prefer the operation that I described many years ago, and which goes by my name, as it seems to me to provide adequate drainage whilst preserving the lining mucosa. Moreover, this is accompanied by no deformity, and by a scar which is practically invisible.

Chronic infection in the posterior group of sinuses is by no means easy to diagnose, and usually comes under observation owing to descending infections manifesting

themselves in the digestive or respiratory tract, or on account of eye symptoms, such as retrobulbar neuritis, optic atrophy, or oculomotor phenomena. General toxic symptoms, or intense occipital or parietal headache, may also demand investigation, whilst local symptoms, such as dryness and crusting of the pharynx or secondary laryngeal inflammation, may be found to be of post-nasal origin. The treatment of the posterior group consists in opening them as freely as possible and allowing them to drain. The middle turbinate should be resected and the large posterior ethmoidal cells entered. It should be remembered that the most posterior ethmoidal cell is, as it were, stuck on to the outer part of the anterior wall of the sphenoidal sinus, and that lateral to this junction is the dangerous area of the cavernous sinus. The anterior wall of the sphenoidal sinus is readily broken down, and free drainage and aeration thereby secured.

ATEBRIN IN THE TREATMENT OF SEVERE MALARIA

BY

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The following is merely a brief report of the results obtained with atebtrin (until recently known as erion) in the treatment of eight cases of severe malaria in hospital. The number of cases is too small to admit of any definite conclusions being drawn, but the work was interrupted by my departure to Europe. It seemed, however, that in the early stages of experience with a new remedy reports even of a few cases would be of some value.

The cases here recorded were deliberately chosen for the following reasons. They gave positive blood findings; they were severe—two very severe—cases; and they were residents of Johannesburg, where there is no endemic malaria—their subsequent history in respect of recurrences, therefore, would be clear-cut. The plan of treatment was the same in all cases. One decigram of atebtrin and one centigram of plasmoquine were given three times a day for four successive days; after a few days the course was repeated.

The plus signs on the temperature charts in connexion with the blood findings have the following significance: +++ = numerous parasites in every field in a thick drop preparation; ++ = numerous parasites; and + = parasites seen in most fields. The original charts were four-hourly, but the reproductions have been reduced to a twice-daily basis, and terminate when the temperature settled down to normal. All the blood examinations were done personally by me. Giemsa stain was used.

Up to the time of leaving Johannesburg (March 10th) none of the patients treated had relapsed. One patient now residing in London, who was severely ill, reported recently as being in perfect health ever since the treatment, which terminated early in January—that is, about four months ago. Slight scleral jaundice was observed in one or two cases, but it is uncertain whether this was due to the drug or to the malaria. No unpleasant symptoms due to atebtrin were observed, but in three cases there were the headache and cramps one sees occasionally in patients somewhat intolerant to plasmoquine. On the whole, I am most favourably impressed with the value of atebtrin.

CASE I

A male native, aged about 19 years, was admitted on September 26th, 1931, with a history of several previous attacks of malaria. Present attack: first rigor on day of admission; spleen enlarged and palpable. Atebrin and plasmoquine were started on September 29th and repeated

on December 28th and repeated on January 6th, 1932.
Blood findings and temperature shown on accompanying chart.

CASE V

A European woman, aged 20 years, was admitted on January 19th, 1932. She had had several attacks of malaria. The spleen was palpable below the costal margin. Present illness: five days with fever every night. This woman was very ill on admission, verging on coma, with slight confusion. A course of atebirin and plasmoquine was started on January 20th, and repeated on January 28th. On the third day of the second course she developed slight cyanosis and cramps,

CASE V

A male native, aged 29 years, was admitted on October 13th, 1931; there was no previous history of malaria or of

CASE II

CASE IV

CASE V

CASE VII

CASE VIII

and the treatment was discontinued; so she only had ten doses in the second course. Owing to family circumstances she left the hospital on that day, apparently well and promising to return, but has not since been seen. Blood findings shown on temperature chart.

CASE VI

A European woman, aged 34 years, was admitted on January 10th, 1932. She stated that she had had fever practically all the time for the past two months. Had had quinine by mouth and two intramuscular injections before

admission. The spleen was palpable one inch below the costal margin; haemoglobin was 38 per cent. She was between seven and eight months pregnant, and obviously very ill; she seemed confused. A course of atebirin and plasmoquine was begun on January 17th. At the end of this treatment she was very much improved. Mental symptoms cleared up forty-eight hours after admission. On the fifth day haemoglobin was 45 per cent. The course was repeated on January 26th. In addition she received 1 per cent. arsenical solution—3 minims, rising to 5 minims, three times a day. She is still in hospital awaiting parturition. On February 9th her haemoglobin was 75 per cent. She is walking about and is apparently quite well. Blood findings shown on temperature chart.

CASE VII

A male European, aged 34 years, was admitted on January 17th, 1932, with a history of numerous attacks of malaria. Present illness over a week. Complained of usual symptoms of fever, especially very severe headache. He was slightly jaundiced; the spleen was just palpable; and he had very septic teeth. Blood findings indicated on chart. At the date of writing (March 1st) he is still in hospital awaiting dental attention, but is otherwise well. A course of atebirin and plasmoquine was given, and a second similar course was started on February 27th.

CASE VIII

A male European, aged 28 years, was admitted on February 19th, 1932, with a history of malaria for over a month and of previous attacks. Mentally somewhat dull, verging on coma. Decidedly jaundiced. Pulse bad. Spleen was palpable 2 cm. below costal margin. Complained of very severe headache. Blood examination showed a mixed infection, with practically every blood cell containing a parasite. Many blood cells contained two parasites. Atebrin and plasmoquine were given as above. The results of the blood examination are recorded on the chart. Haemoglobin estimation was done with the Dare haemoglobinometer. A second course was started on February 27th. He is now convalescent.

The last case was of extreme severity, and would be considered as one in which quinine should be given intravenously. One would be justified in regarding this case as being in the pre-haemoglobinuric state. His recovery under atebirin-plasmoquine I regard as a particularly striking demonstration of the efficacy of these drugs.

AVERTIN ANAESTHESIA IN CHILDBIRTH

BY

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The following investigation has been carried out with the purpose of determining to what extent avertin anaesthesia is of value in childbirth. The anaesthetic has been administered to forty-five patients—thirty-two of whom were primiparae and thirteen multiparae. Although the number is very small, some idea has been gained of the value of the method. The whole technique has been made as simple as possible, so that the anaesthetic may be of use in general as well as in hospital practice.

TECHNIQUE

Preparation of Avertin for Use.—All patients have been weighed as far as possible at the end of the eighth month, and the appropriate dosage read off from the Bayer Products Ltd. avertin obstetric dosage table. A 2½ per cent. solution has been used, which corresponds to 0.075 c.cm. per kilogram body weight. A green glass bottle is heated to 40° C. by immersion in hot water, and the measured quantity of Squire's redistilled water run into the bottle. The avertin, measured in minims, is added, and the mixture shaken for several minutes. Occasionally a white deposit appears, but this will dissolve

on continuous shaking. By the use of redistilled water instead of distilled water the solution remains unchanged for as long as one month; thus the drug can be made up and kept ready for use. Before injection of the anaesthetic, the solution is tested by adding to 5 c.cm. of it one drop of 1 in 1,000 Congo red; the red colour should remain unchanged. If the solution is impure, dibromacetaldehyde is liberated, which turns the red to a blue colour. The solution must then be discarded, and a fresh one prepared. This has been necessary three times in the present series.

Administration of Avertin.—It has been found during the course of the investigation that the most advantageous time at which to give avertin is when the os is fully dilated in primiparae, and at three-quarter dilatation in multiparae. On admission to the labour ward, provided that time permits, the patient is bathed, shaved, and given a simple enema. Avertin cannot be administered unless an enema is given and the rectum is empty. The necessary apparatus consists of a glass funnel, to which is attached a No. 6 catheter and a measuring flask, into which the avertin is measured from the bottle. In many of the cases only two-thirds of the calculated dose was used, while in the remainder the total amount was given. At the termination of a pain the patient is placed in the left lateral position, the anus swabbed with biniodide, and the catheter inserted about three inches into the rectum, the funnel and tubing having been previously filled with the solution. The fluid as a rule runs in very easily, but occasionally the catheter has to be manipulated before the flow begins. The injection is made slowly. Should a contraction occur during the administration, the catheter is withdrawn, and the anus closed by pressure on the buttocks, so as to prevent ejection of the avertin.

EFFECTS OF AVERTIN

On the Mother.—The effects of avertin were found to vary considerably. In some patients the result was miraculous. A noisy, unruly patient has immediately become drowsy and lapsed into a deep sleep, while others have shown no sign of drowsiness until as long as twenty-five minutes after the injection. In the present series the average time at which drowsiness occurred was eight and a half minutes after administration. A few patients became absolutely unconscious, only stirring very slightly during the pains, and being quite unaware of the birth of the child. The majority, although asleep between the pains, wakened with each contraction, and were frequently difficult to control owing to arching of the back and movements of the arms and legs. This opisthotonos was more evident than in labours without anaesthesia. In a small proportion of cases, especially in multiparae, the patients did not become drowsy, but admitted that the pains were less severe after the avertin injection.

The time interval between contractions was recorded before and after administration, and it was found that the interval between pains was increased, thus unduly prolonging the second stage. The average duration from the administration of avertin until delivery was two hours thirteen minutes in primiparae. In some of these cases avertin was given at three-quarter dilatation, and in others at full dilatation. The third stage of labour has been concluded normally, no excessive haemorrhage having occurred, with separation of the placenta. Many of the patients have slept peacefully for several hours after delivery. No dangerous symptoms have followed avertin administered in the recommended dosage. In no case has either cyanosis or difficulty in breathing occurred. The respiration rate is sometimes slowed, sometimes quickened, while the depth is diminished. The pulse is slightly increased. The blood pressure falls on an average by about 10 mm. Hg.