&c. The benefit resulting from these is due, I think, to the liberated carbonic acid gas; this gives pressure and support to the abdominal organs from within, and renders them less liable to be depressed. The inhalation of nitrite of amyl has at different times been recommended for this disorder, and sometimes used beneficially, but it relieves only one of the symptoms of sea-sickness—viz., the syncope. It is a dangerous remedy if persisted in, and should never be used except under the direction of a medical man. Chloral and morphia injections can only act by their power of narcosis, which causes a blunting of peripheral and central sensibility.

Pressure over the abdomen is by far the most hopeful remedy we possess. A well-made mechanical appliance, specially designed for this purpose, and made for me by Messrs. Maw, Son, and Thompson, Aldersgate-street, I have found to be most efficient. This support fixes the abdominal organs, it also helps to do the work of the abdominal muscles until they become sufficiently educated to reflexly appreciate the exact moment when their duties should be performed. Bearing upon this latter point, it is well known that old sailors, after a long Pacific voyage, where the seas are regular and very large, frequently become sea-sick when crossing the British Channel and the Firths, where the waves are short and choppy, and the movements of the vessel very different from that which they have been accustomed to. In this case the abdominal muscles of the sailors have been well accustomed to one kind of movement, but are utterly unable to appreciate the other. It is found by experience that if the abdominal muscles can be kept in an almost continuous state of contraction, the tendency to sea-sickness is very much lessened. We can do this either by strongly willing to make these muscles contract, or by making a continuous expiratory effort as in singing or whistling; but most will agree with me that this would be by far too tedious a procedure to recommend.

It is well known that certain positions in a vessel are more likely to provoke sea-sickness than others. For example,

an upright position with the back to the bows of a ship, and at one or other extremity of the vessel, is more likely to induce sea-sickness than the horizontal in the centre of the vessel would be. If from any cause the voyager is unable to assume the recumbent position, the next best one is to sit down on a low chair or stool, with the knees drawn up to the body, the body being bent forwards, and a roll of clothing pressed between the stomach and the knees. I have often noticed that this position gives relief, the extreme pallor of the face changing to a normal colour.

The abdominal support before alluded to is in the form of a belt with five air-cells worked between the two layers of the material—three in front, A, B, C, and two behind, D and E. These air-cells are all connected together by small airtight tubes, F, F, and with the inflating nozzle G, and outlet plug H. The belt is applied to the body over the jersey, and buckled comfortably tight. When the sea is gentle and smooth, there is no need to tighten the belt by inflating the air-cells, but if rough these are inflated until such compression is produced as will convey a sense of support and comfort. The belt when inflated is not noticed under a loose waistcoat. If worn by ladies it should be worn without stays. The pads D and E are applied over the small of the back on either side of the spine. When the air-cells are strongly inflated, the belt is capable of sustaining a person in the water. When used for this purpose, care should be taken to secure the shoulder-straps crossways over the neck, and the belt should be drawn up under the arms.

Bournemouth.

ON CONCEALED ACCIDENTAL HÆMORRHAGE; WITH CASES.

BY EDGAR G. BARNES, M.D. LOND.

THE subject of this paper has been forced upon me by the occurrence of two cases which I will briefly relate, and which I think are sufficiently uncommon to justify me in recording them.

Cases of so-called accidental hæmorrhage are of course common, but cases in which that form of hæmorrhage is concealed in the complete manner in which it was concealed in these cases are rare, and at the same so difficult to diagnose in their early stages, and so frequently fatal, as to give them a very painful interest to those who, engaged in the practice of midwifery, may at any time be required to diagnose and treat them, possibly without the advantage of the advice and assistance of a colleague.

My first case occurred on Oct. 6th, 1877. A healthy woman, about thirty-five years of age, pregnant with her third child, and daily expecting her delivery, sent for me at 9 A.M. in consequence of being taken with faintness and shivering. On my arrival I found her looking pale and faint, and she had that kind of shivering, without the sensation of cold, which so often occurs during labour. Her pulse was only 90, and her symptoms then did not alarm me. I considered them due to the nausea and discomfort which frequently precede labour, and having made a vaginal examination, and found a natural presentation, and the os uteri undilated, I contented myself with giving a dose of opium with spirit of ether, and requested that I should be sent for if she became worse. At 3 P.M., when I was again summoned, I found the aspect of the case strangely altered. She had had a little pain since my visit in the morning, chiefly of an aching, stretching character, and unlike labour pains in being continuous, though slightly increased at intervals. She was blanched, extremely faint, with an anxious countenance and restless manner; her skin was cold, her pulse of that character best known as "rapid," a combination of extreme frequency with extreme feebleness—in fact, she had all the symptoms of a woman dying from hæmorrhage. I placed my hand on her body and was instantly struck by the immense enlargement which had taken place in the uterus since I left her, six hours previously, and I came to the conclusion that this must be due to hæmorrhage into the cavity of the uterus, but was somewhat puzzled to find there was not even the slightest discharge of either blood or serum externally. The os uteri was at this time dilated to the size of a crown-piece, or a little larger, and readily dilatable to any extent that might be necessary; the membranes were tense and bulging, and the head presenting; and I hastily resolved on a procedure which I know many will be inclined to criticise, and possibly, on more mature reflection, I might have decided on a different course. My practice in this case, however, has the sanction of as eminent an authority as the late Dr. Robert Lee, who advises that where a great internal hæmorrhage has taken place, turning should be preferred to the simple rupture of the membranes, as the over-distended uterus does not contract sufficiently to restrain the flow of blood. Following this practice, then, I turned the child. When I ruptured the membranes in the course of this operation, an immense quantity of blood was forced out by the side of my arm in jets like water from a garden hose—myself, the bed, the floor, the very walls were drenched, and the whole formed a scene of distress not readily forgotten. I delivered without difficulty a dead female child; and the placenta, which seemed fatty and readily torn, also came away easily. Shortly after delivery the collapse increased, her respiration became sighing, and extreme restlessness supervened. I gave a dose of ergot, as the uterus did not contract well, and then ten minims of laudanum with a little ether. Slight oozing continuing, I injected perchloride of iron into the uterus and ether under the skin, but she expired one hour and a half after delivery.

My second case occurred on Aug. 7th, 1880, the patient again being a healthy woman about thirty-five years of age, who had had several children previously. As my partner (Dr. Miller) and I were driving past her house we were called in. We found her pale and collapsed, with rapid pulse and exsanguine lips, and with a fixed impression of im-

pending dissolution. She was in the eighth month of pregnancy, and her history was that she had suffered for a week past with severe diarrhœa. She had, however, got up and dressed that morning, and had been downstairs, though hardly able to move. On coming up again she had a slight fall at the top of the stairs from feeling faint and giddy, and this was followed by sickness, coldness, and great prostration. When we saw her about four hours after the fall she had already fainted several times. She gave one the immediate idea of a patient dying from loss of blood, yet the most careful examination showed no sign of it, not even the oozing of a drop of serum, the point on which so much stress is laid in the diagnosis of concealed hæmorrhage. The bowels had acted as she lay in bed, and for a time we doubted whether hæmorrhage or collapse from diarrhœa had caused the prostrate state in which we found our patient. She did not refer any pain to the uterus, nor could we feel any marked excessive enlargement, such as I had noticed in the previous case. The fœtal heart could not be heard. Vaginal examination revealed a natural presentation, and an os uteri that would not admit the tip of a finger; the vagina felt cold to the touch. We administered an opiate, but the collapse increased, and she died two hours after we first saw her in a state of syncope. The next day I made a post-mortem examination, and the state of the uterus is the only thing calling for notice. On opening the abdomen I observed an ecchymosis on the front wall of the uterus, just below and to the right of its centre, there being no corresponding bruise visible in the abdominal wall. I opened the uterus along the middle line in front, and impinged at once on the placenta, which was attached to the middle zone, and below was detached to the extent of a piece the size of the palm of the hand, the detached portion corresponding exactly in situation to the ecchymosis I had already observed. Between the wall of the uterus and the membranes was an immense amount of clot and serum, so that I turned out and collected in a vessel not less than four pints, the membranes remaining entire all the time, so that it was not mixed with liquor amnii. The os uteri was closed so as to admit a finger only by using force. The fœtus was well nourished, and the placenta and uterus healthy. In this case there can be little doubt, from the coincidence of the ecchymosis and the detached portion of the placenta, that the detachment was due to a blow sustained in the fall at the top of the stairs when the patient partially fainted from the effects of the diarrhœa.

These painful cases open up several interesting points of inquiry. How is it that hæmorrhage to such an extent as this can be so completely concealed that the presence of the effused blood is not betrayed even by a discharge of serum per vaginam? It seems difficult to believe that a mass of blood so large as here described can be thus completely retained; but the fact remains, and it is important to recognise this, inasmuch as it is not usually noted in our standard works, which, as these cases show, lay too much stress on the oozing of liquor sanguinis in the diagnosis of concealed hæmorrhage. In Dr. Robert Barnes' work on "Obstetric Operations" the following passage, however, occurs:—"The blood is often wholly or partially concealed. The detachment taking place at a distance from the cervix, we lose, therefore, the ordinary evidence of flooding." Yet, even this does not fully explain the causation of these cases; for in my second case the detachment took place below the middle zone of the uterus, and therefore not at any great distance from the cervix. It seems probable that, in addition to the mere position of the detachment, there must be a condition of inertia of the uterus, for it is inconceivable that a mass of blood should lie completely concealed not far from the cervix if there were any degree of uterine action, as surely a very small amount of contraction would suffice to separate the opposed surfaces of uterus and fœtal membrane so as to allow the fluid parts of the effusion to escape. And this state of uterine inertia may be due to disease of the uterine walls, such as the softened placenta in my first case might suggest as possible; or to general faintness and feebleness of the whole system from previous exhausting disease; or from the effusion in the first instance being copious and sudden—conditions suggested by the second case I have related; and to these may be added the fact that these hæmorrhages frequently occur before the full term of pregnancy is completed, when the uterine muscular fibres have not reached their full development, and when the uterus is less ready to contract efficiently than at the end of the ninth month. There is yet another mode in

which concealment may be caused, which is illustrated by a case reported by Dr. Oldham in the Guy's Hospital Reports, 1856, and the preparation from which is preserved in the museum of that institution. In this case the primary separation occurred at or near the middle of the placenta, so that that structure was gradually separated from the centre outwards, its uterine surface becoming depressed and cup-shaped, and thus forming a cavity capable of receiving a fatal effusion, whilst the entire margin of the placenta still remained attached to the uterine wall, effectually preventing any external evidence of the mischief within.

Then, how are we to diagnose these cases sufficiently early to enable us to save our patient's life? For I need hardly say that it is only by an early recognition of the nature of the case that a fair chance is afforded of rendering efficient aid. We have already seen that the point upon which so much stress is generally laid, that concealed hæmorrhage is indicated by the escape of more or less blood-stained serum per vaginam, is liable to lead us astray, as indeed, I confess it led me astray at the commencement of the first case I have related. What symptoms, then, can we rely on? The general signs of loss of blood, unfortunately too familiar to us all, may well make us suspicious; but collapse presenting similar characters to that caused by hæmorrhage may occur from other causes; for instance, the profuse diarrhœa of my second case might very reasonably have been held to account for the collapse, causing as it did the syncope and fall which detached the placenta; this again, then, fails to be pathognomonic. Other signs which aid the diagnosis are severe pain referred to the uterus of a continuous aching character, increased at intervals and by pressure, but not like true labour pains; sudden and great distension of the uterus, which becomes peculiarly significant if accompanied by irregularity of form, caused by the blood accumulating in one situation. These, however, are later signs, and when once clearly recognised, they generally indicate that so great an effusion has taken place that the time for effective treatment has gone by, and besides, they are not constant. The pain was not acute in either of my cases, though in neither was it entirely absent. The great distension was distinct in the first case (but at a time when a fatal hæmorrhage had already occurred), and in the second case was not observed, though we were alive to the possibility of internal hæmorrhage, and therefore looking for this sign amongst others, whilst the irregularity of form was not noticeable in either case. It is only by a careful consideration of the whole category of symptoms that a diagnosis can be effected when the hæmorrhage is thus entirely concealed, and too often, I fear, the symptoms will not point with sufficient clearness to the real nature of the case until the hæmorrhage has assumed such alarming proportions that the patient's life is in urgent peril. Next, as to prognosis, this I venture to say is extremely grave, far more so than in ordinary accidental hæmorrhage, and this increased gravity is entirely due to the difficulty attending the early recognition of these cases. The most accurate information I can find on this subject is in a paper read by Dr. Brunton before the Medical Society of London. In this paper he has collected thirty-two cases of accidental hæmorrhage of the concealed variety, and of these nineteen mothers and all the children died.

Lastly, having made our diagnosis, what should be our treatment? I think the ordinary rule for treating accidental hæmorrhage should be followed—viz., to evacuate the liquor amnii, and only when this has failed to restrain the bleeding, to proceed to delivery by turning, or otherwise, as circumstances may dictate. Dr. Robert Lee, indeed, advises turning in preference to simply rupturing the membranes in cases where there has been great hæmorrhage and the uterus is much distended, and urges as his reason that such an over-distended uterus is not likely to contract around the fœtus sufficiently to restrain the hæmorrhage until the labour terminates; but such an argument equally applies to the contraction of the uterus after delivery, and the history of my first case confirms this, inasmuch as I found it necessary to inject the perchloride of iron after the placenta was removed. In that case, in my opinion, the mischief was already done, and it mattered but little what line of treatment was adopted; subsequent reflection, however, would lead me, should I be unfortunate enough to meet another similar case, to resort, in the first instance, to the simple evacuation of the liquor amnii, rather than add to the collapse, the shock of sudden delivery. Still, it must not be forgotten that rupturing the membranes does not invariably

restrain the hæmorrhage in these cases, and it may become necessary to deliver at once. In proof of this I may mention that in thirty-nine cases of accidental hæmorrhage reported by Lee, in seven he has noted the fact of a return of the flooding to a considerable extent after the membranes were ruptured.

Eye, Suffolk.

TWO EXAMPLES OF ABSCESS OF THE BRAIN.

By SURGEON-MAJOR W. CURRAN, A.M.D.

As the case described below is the only one of its kind that has come under my personal notice in a professional career that now exceeds a quarter of a century, I am induced to hope that it may be found suited for publication in these pages. It occurred in India in October, 1878, in the person of a private of Her Majesty's 25th Regiment, the King's Own Borderers, and the specimen which gave rise to it was removed at the time by myself. Its examination by persons who are necessarily more conversant with such details than I can pretend to be, may impart some further interest to this narrative; and I will subjoin the post-mortem of another case of graver import, but somewhat similarly negative character. The latter well illustrates the obscurity that so often attaches to injuries of this organ, while the former implies that fair health may be enjoyed for an almost indefinite period under gross organic mischief; and both tend to show that an accurate diagnosis of severe intracranial disease is often very difficult indeed.

The man here referred to appears to have enjoyed fair health up to a very recent period, though the condition or complication under which he died must have existed for months, possibly years, previously. He merely complained when before me of some confusion of thought, and inability to eat or sleep satisfactorily. He had also, he said, a dull heavy feeling within his head, which, however, rarely amounted to pain, and he had performed all his ordinary duties up to date. His expression was dull and drowsy, while the conjunctivæ were suffused, and the manner was excited and uncertain. But this might, I thought, be due to the drink in which his comrades were known to be indulging at the time; and there was, in a word, nothing striking or typical in his features or demeanour. Certainly no one would have surmised the presence of a deep-seated organic lesion from his appearance, and so I merely "detained" him for the day, for observation.

Finding that these symptoms persisted in spite of the free purgation to which he had been subjected in the interval, I admitted him into hospital at my next visit, and then learnt for the first time that he had scarlatina in the early part of his service. He has, moreover, been since under treatment three or four times for otitis and inflammation of the external meatus, and the discharge was profuse and unhealthy-looking when I examined it. His habits are described as intemperate. In answer to questions, he said he had been struck on the side some time before with a loaded belt by a drunken soldier; but subsequent inquiry lent no support to this statement, and the appearances revealed by death deprive it of all probability. I ought to add that his pupils appeared to me to be more contracted at this time than was natural. As his apathy and indifference to food appeared to increase, an orderly was placed over him, with directions to supply him with drinks and sustenance. The bowels had to be relieved by enemata, and I noticed with surprise that the passage of a catheter into the bladder elicited no expression of feeling. The cerebral origin of his illness was now beyond question, but its precise character was at no time realised, and meanwhile, his somnolence having increased, he was cupped over the neck and blistered behind either ear. The coma, however, waxed stronger, while the pupils became more contracted, till they were reduced to pin-points, and he died insensible, but without having become convulsed, within something less than a week from the date of his admission.

On section, ten hours after death, the body was well-nourished and rigidity was fairly developed in it. On opening the head, the superficial vessels of the brain were

found to be gorged with black blood, which latter escaped in considerable quantity from the punctured longitudinal sinus, and there was such a whitish filmy exudation under the arachnoid as implied chronic irritation of the meninges. On removing the cerebral mass itself, a considerable quantity of pus—about an ounce or more of a dirty colour and grumous consistence—welled from a spot adjoining the internal ear, which, coupled with the simultaneous escape of a similar fluid outwardly, left no doubt as to its original seat and cause. Corresponding to this on the under-surface of the posterior lobe of the right hemisphere was a well-formed abscess of the size of a pullet's egg, which evidently communicated through the mastoid cells with the cavity of the ear, and appeared to be of old standing. The brain-tissue in rear of this was softened and discoloured for an inch or more, while the puncta vasculosa were everywhere abnormally prominent, and there was about half an ounce of blood-stained fluid in either ventricle. Divested of its membranes it (the brain) weighed 2lb. 4 oz., and its texture was otherwise unaffected. Abdomen: The liver generally, though passively congested, exhibited a soft friable consistence and a fatty feel. Its reaction was distinctly amyloid, and the kidneys were also congested. The intestines were, if I except some quasi-diphtheritic punctiform congestions of the ileum, free from traces of disease, and no entozoa were found in either.

As regards the specimen itself, Dr. A. H. Young, Pathologist to the Royal Infirmary at Manchester, to whose courtesy I am indebted for the following description, says that, "so far as can be (now) ascertained, there seems to have been extensive ulceration and perforation of the membrana tympani. The ossicula were absent, and the walls of the tympanic cavity were almost entirely denuded of mucous membrane. The rest of the temporal bone shows that some of the mastoid cells had been distended with cheesy purulent material. Some of the septa had broken down, and hence one or two large cavities resulted, some of which still contained thick inspissated pus. This latter was also found extending superiorly to the outer side and above the auditory canal (i.e., its bony portion), whilst inwards it extended as far as the internal auditory meatus, and up to the level of the superior petrosal sinus. The bony layer covering this purulent matter was *very* thin, and in parts perforation existed through which the white-coloured, thick, purulent matter was easily seen. The greater part of the petrous bone was dark-coloured and somewhat eroded, and (as to the brain-abscess) there seems to be no reason to doubt that it was due either to the direct inward extension of the inflammatory process or to infection. The former seems, however, to be the more probable of the two."

Discussing this case an evening or two afterwards with the two medical officers then in the station (Fyzabad), both mentioned some similar instances, and one of them, Dr. Bonavia, was good enough to favour me with the following particulars of his experience. "The case of abscess of the brain I mentioned to you," he writes, "the other day in connexion with discharge from the ear occurred in Lucknow in 1860, in a sepoy of the old Oudh military police. Being admitted with a discharge from the right ear, he became hemiplegic a short time afterwards on the left side. He died soon afterwards, and the post-mortem examination revealed an abscess which was as large as a hen's egg in the right hemisphere. Though unable to point just now to the exact position of this abscess, I yet know that it was near the surface, and I came to the conclusion that it was directly connected with the discharge from the ear. With regard to the second case I mentioned to you," he continued, "these are the particulars. A Brahmin constable was admitted to hospital for some form of fever on the 8th of October, 1868, who died suddenly on the following night. I had not seen him during life, but my (native) assistant assured me that his symptoms were at no time urgent, and he was well enough to cook and eat his dinner the evening before he died. His death occurred, as I have already intimated, on the night above referred to, and I am unable to say whether he was convulsed or not previously. At the autopsy the vessels of the dura mater and brain were found engorged with blood. The right cerebral hemisphere contained near its middle a cavity which was as large as a big hen's egg, and this was filled with softened and disorganised brain-tissue. The latter, which had some small clots of blood mixed up with it, appeared to be passing into pus. Behind this cavity, and adjoining it, was a portion of the same hemisphere (about the size of a pigeon's egg), which was infiltrated with