terior parietal bone covers the inlet of the pelvis—presentation of the anterior ear—*Vordere-Scheitelbein-Lage*. This is met with principally in cases of high elevation of the promontory, and it is rectified as already described under No. 1, if it be rectified at all.

The reverse inclination of the head, that to the anterior shoulder, is rarer, and at the same time more dangerous; here the sagittal suture is found close to the upper border of the pubes, the posterior parietal bone covers the plane of the inlet, the anterior looks to the fundus uteri—presentation of the posterior ear—*Hintere Scheitelbein-Lage*. It is met with usually when the promontory is not elevated and the anterior wall of the pelvis has a nearly vertical direction, which does not allow of the anterior os parietale rolling down into the inlet. When, in the course of labour, the anterior parietal bone comes more and more to be felt, and the sagittal suture moves from the anterior border of the brim towards the transverse diameter, then we may infer a lucky progress. But ordinarily this will take so much time that we cannot wait for it, the soft parts of the mother running the risk of being torn, or of suffering mortification from the pressure of the head against the sharp anterior margin of the brim.

If these positions be recognised very early in labour, and if then we find that spontaneous rectification will take too much time, we do best to perform podalic version, as by this operation we produce a position much more favourable than the primary one. These anterior or posterior lateral flexions of the head in contracted pelvis alone constitute for me a strict indication for early version; in all other cases of narrowness, the indications for version vary according to the talent and judgment of the individual operator. But when the performance of version in the cases in question does no longer appear likely to be easy, or if it be injudicious to do it, then we must perform craniotomy, and the earlier that is done the better for the mother.

The foregoing general notions are the most important which I have to communicate about mechanism of labour in contracted pelvis. To give more details, want of time forbids, as well as want of sufficient experience of the rarer varieties of pelvic anomalies and presentations. The above remarks are based upon more than five hundred personal observations of labour in the three named varieties of abnormal pelvis.

FALLACIES AND FAILURES IN ANTISEPTIC SURGERY.*

By EDWARD LUND, F.R.C.S.,
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I PROPOSE in this paper to consider, very briefly, some of the more common fallacies and sources of failure which are entertained with regard to antiseptic surgery, and the consequences which follow from their adoption.

That the antiseptic method of treating wounds, large abscesses, and such like surgical cases, when correctly carried out, is right in principle and successful in practice, no one can deny who has seen the plan in full operation, from day to day, in any large hospital; and the more evident will the good results be rendered, where this practice can be contrasted with the ill effects of previous hygienic conditions.

I will first enumerate some few of the erroneous notions which are entertained by surgeons on this subject, and then I will proceed to consider them in detail, so as to prove their fallacy, and the tendency which such notions have to lead to the entire rejection of the system, or to its certain failure in practice.

FALLACIES.

1. It is a fallacy, or an erroneous doctrine, in the practice of antisepticity, that it is the agent employed, and not the result produced, which must be closely watched.

2. It is a fallacy to assume that the success or failure of the system is to be measured alone by the absence or presence of suppuration.

3. It is a fallacy to look upon the secretion and expulsion of pus as so much broken down tissue produced by the removal of previous induration, the reduction of swelling, and the clearance of the general system of some peccant matters.

4. It is a fallacy to regard the admission of air to wounded portions of the body, unless the air be filtered and disinfected of its septic particles, as a matter of light importance, and to omit to note the subtle influences which travel with unmeasured rapidity along the atmospheric wave.

5. It is a fallacy to ignore the possible contagion of septic matters from one wound to another, from one person to another, from tainted instruments and soiled dressings, and thus to neglect the most scrupulous cleanliness in the treatment of wounds, by quick removal, from within their range, of the minutest portions of the products of putrefaction.

6. It is as fallacious as it is inconsistent, to attribute on the one hand to atmospheric causes the presence of pyæmia, septicæmia, erysipelas, and the like, and yet to take no precautionary measures which can be proved to be efficient to neutralise these ill effects in the treatment of wounds.

1. Returning, now, to the first fallacy, the common error is to say, "I have used carbolic acid, and yet the wound has not done well, therefore carbolic acid is useless in the treatment of wounds." Now, it is clearly not the carbolic acid with which we have to do, but it is it or any other agent which we like to use, which shall prevent putrefaction in the excreta of the wound. It is the prevention of putrefaction, and this alone, which we seek to obtain. Carbolic acid is the first and chief agent we have thus far employed, and we still use it, because there is much to recommend it; but to say that it has any special power beyond its antiseptic properties is, indeed, a fallacy.

2. With regard to the second of these fallacies, I may say that in the early stages of antiseptic practice it was thought that this plan would lead to the total abolition of suppuration; but, as suppuration is to be regarded only as one of the stages or conditions of inflammation, all that antisepticity can do is to control that process, and to a corresponding degree moderate the excretion of pus.

3. We next come to the third fallacy. Nurses are very apt to say, "Ah! sir, if you don't have it mastered now, it will show itself afterwards," referring to suppuration in wounds, under the semi-popular, yet erroneous notion, that pus must be formed during the process of healing, either at the seat of the wound, or, if not, elsewhere. Now, this surely is a fallacy. Again, with regard to the necessity for suppuration as a means of reducing previous induration or abnormal growths, it is true that in the stream of pus which escapes from an abscess or a wound we may find flakes of lymph, broken down blood-clots, and little spicula of bones; but these are merely held in mechanical suspension in the pus, which is still only an excretion from the surface, a product of inflammation, not liquefied or disintegrated tissue.

4. If we take the fourth fallacy, we may say that where unlooked-for results have occurred in the healing of wounds, without any special treatment to exclude the impurities of the air, the causes must be sought for in the fact that the air, when it surrounded them, was very pure, or there must have been great constitutional vigour on the part of the patient. These are exceptional cases; and it is not for such as these, but for the more ordinary conditions, that the dressings we now employ are used, as "air-filters" and "wound-covers", to correct external influences.

5. The fifth fallacy, it will be remembered, is the practically ignoring the possible contagion of septic matters. Mr. Howse very recently, in a clinical lecture on erysipelas, made the remark that, in watching the progress of cases treated antiseptically, he had found that, while septicæmia might often occur, it rarely, if ever, passed on to pyæmia, but remained only as local mischief, with loss of tissue, but not blood-poisoning. One of the great provocatives, but not the only cause of suppuration in wounds, is the irritation induced upon their surface by the products of putrefaction generated in the serous and other discharges which rest upon them. Remove these quickly, as soon as formed, or, still better, avert or prevent their formation entirely; and the whole aspect of the process of repair is changed. Either perfect primary adhesion results, or granulations form, fill up the chasms of the wound by daily advance, and, themselves unirritated, do not produce that redundancy of cell-development which we call pus (useless in its office, unless as a safety-valve to excessive inflammatory action); lymph is excreted in the place of it; and the wound is healed.

6. In reference to the sixth fallacy, Dr. Macleod reports that Mr. Holmes has observed that, with little to encourage him in his earlier cases, when he proceeded to dress the more recent ones himself or under his own immediate inspection, success took the place of failure, and he became an advocate of the system. Dr. Macleod has even gone so far as to say that the time occupied in dressing wounds upon this principle is one of the chief objections to its general employment. This would seem to be a fallacy; for, if proper preparations be made, and the plan be carried out each time on a good pre-arranged system, I find that the dressing of an amputation or any similar wound can easily be performed in from five to seven minutes with positive certainty. Compare this with the time occupied in former days in the preparation of that time-honoured luxury of ancient surgery, the bread-poultice à la Abernethy, and we can have, on this question of time, a gain rather than a loss.

* Read before the Surgical Section at the Annual Meeting of the British Medical Association in London, August 1873.

FAILURES.

Now, as to the sources or causes of failure which may vitiate the ultimate results of any operation conducted on antiseptic principles, I would mention—

1. Non-attention to the needful preparations before the operation is commenced, in reference to the part to be operated upon, the instruments to be used, and the assistants who are to take part in it. This applies as much to the treatment of abscesses as of wounds properly so called, for the entrance to the abscess must be most carefully guarded at the time of incision.

2. Defective arrangements during the progress of the operation, from its commencement until its entire completion, so as to preserve the wound from septic influences. Professor Lister's old remark, that in these cases it is essential that we should have the perfect co-operation of our assistants, and that they should be at one with us in all the precautions we strive to take, is very true; for, if they be indifferent, or there exist a disbelief on their part of the necessity for such measures, failure is almost sure to occur; for at the time of the operation there will be inevitably a certain laxity or even carelessness in protecting the newly exposed tissues from injurious contact with noxious matters in the atmosphere.

3. The third cause of failure may be described as faulty adjustment of the dressings after the operation is finished. It is important to remember that putrefaction, once set up, is far more difficult to check and to correct effectively than to stop its advent in the first instance. Prevention here is indeed better than cure. The greatest care must be taken, in adjusting the first dressings, to see that they cover ample space, to provide for the escape of serum and other matters from the wound, the accumulation of which within the cavity either of wounds or abscesses is sure to jeopardise the result. It is very necessary to adjust the dressings so as to filter the air which penetrates them, and yet not to allow any puckering up of the dressings to exist, whereby channels would be left so capacious that a stream of air would pass along them too large to be disinfected by the antiseptic vapour thrown off from the dressings in any given time. One source of failure in the management of amputations near to the wrist and ankle is, that suppuration occurs along the sheaths of the tendons here found, causing abscesses at some distance up the limb. Now this is occasioned by suppurative inflammation of the lining of the sheaths from the serous discharge or the blood being there retained and undergoing putrefactive change; hence the great necessity, in dressing wounds at the time of the operation, to syringe out the cavity well with the antiseptic solution, and especially to direct the stream along the lining of the sheaths of these tendons. Another source of failure is this, that the dressings, either immediately after the operation or subsequently, are so placed over the wound or stump of an amputation that they are apt to shift or become displaced downwards, leaving a cavity between them and the face of the stump, in which more air collects than the vapour generated from the resin cloth or gauze can disinfect; and putrefaction, once established, goes on to an advanced degree.

4. The fourth source of failure is injurious delay in re-dressing the wound for the first time after the operation. It is a common source of failure to use antiseptic preparations as dressings to wounds which are not persistently antiseptic, or which, from their very nature, cease to exert an antiseptic influence after a very short interval—to allow dressings to remain on too long without being guided solely by the presence of discharge upon their surface, which, having exuded through layers of material employed (whatever that may be), have reached the air, and there becoming putrid, have carried their septic influence backwards to the wound.

5. We come now to the fifth source of failure—viz., carelessness in the special method of removing the old dressings and applying new ones, even where the atmosphere is assumed to be rendered innocuous by antiseptic vapour.

Want of care in the removal and re-application of the dressings in three particulars may lead to failure.

a. Where the spray is used on one side only, and the dressings are lifted off from the whole surface of the wound, the vapour may not cover the exposed surface. To correct this, it is necessary to raise the dressings up only from one side at a time, and to follow up the stream of spray at the angle thus formed between the dressings and the wound until the whole surface has been exposed and again covered over.

b. Failure may result from removing the guards of cloth or lint which are laid over the wound in the same manner, or replacing them without taking care to do so against the stream of vapour, so that it may well overcloud the surface which is the last to be exposed.

c. The resin cloth or gauze which may be applied may of itself become contaminated with septic matter just before the operation, by lying upon

some soiled or dirty surface. To remedy this, I now find the best plan to be always to damp with the carbolic solution the portion of the resin cloth which is nearest to the wound; or even sometimes I treat the material in the same way, and apply all the dressing damped with the antiseptic lotion. In dressing abscesses for the second, or, indeed, any of the subsequent times, it will occasionally happen that the drainage-tube which we have inserted has become blocked up by a fibrinous clot detached from the sides of the sac of the abscess; or even, some days after the tube has been taken out, such a coagulum may block up the opening and cause detention of serous secretion within the cavity, which, by accumulation and distension, will act as a foreign body and set up secondary suppuration. It is therefore of the greatest importance to avoid this one source of failure in the management of abscesses; to be quite certain that, either from the size of the aperture of exit for the matter in the first instance, or by its continued patulence, there shall never be any impediment to the free escape of that serous secretion from the lining membrane of the cavity which is sure to occur for several days after a large abscess has been opened. My usual plan now is to change the dressings in a severe wound or amputation each day for the first five days; to remove the drainage-tube on the third day, and the first of the sutures on the fifth. After this, the dressings are generally replaced on each alternate day for about six more days, during which time, as a rule, all the sutures have been taken out, and primary adhesion has been effected.

As to putrefaction in the excreta of wounds, I believe there are many degrees of it, and it is desirable, if possible, to have some test by which to identify them. The smell is one which is most usually had recourse to; and if no very positive smell be detectable, it is supposed that little putrefaction exists. We also look to the colour of the oiled silk protective that lies next to the wound. If, by chance, it should retain for more than twenty-four hours its green colour, it is positive that no putrefaction exists. If it be slightly bleached or blanched, I believe, from the presence of sulphurous acid as the result of oxidation of the sulphur of the albuminous compounds of the serum, that is a condition which need by no means excite alarm. But, if here and there on the oiled silk protective we find brown, reddish-brown, or even black spots, they can alone be caused by the sulphuretted hydrogen—also a consequence of a more advanced condition of albuminous putrefaction acting on the lead in the oil with which the silk has been treated. But here I may state that I believe, if chemistry would serve us, there are products yet to be discovered in the earlier stages of putrefaction, before the offensive gaseous products, sulphuretted hydrogen and ammonia, are evolved, which are far more dangerous for systemic inoculation. It is so with the dissection-wound; it is acknowledged by all that to receive a wound from a scalpel used on a body recently dead, and when the putrefactive changes are just beginning, is a condition of things far more likely to be followed by dangerous constitutional symptoms than if the same wound had occurred when the subject was highly putrid. The latter might cause septicaemia with excessive local disturbance, but the former would show little immediate results at the spot wounded, though far graver symptoms in the general system would inevitably follow. And so, perhaps, it may be that the older surgeons, who utterly despised all attempts in this direction, used at times to indulge in some such expressions as these with regard to the state of a wound which I should call grossly putrid. "Ah! well, all right; a fine stink; I like a good smell; go on with your poultices." It may be, I say, that blind experience had taught them that here, with the more advanced signs of putrefaction, there was really less danger of blood-poisoning than if there had been evolved from the wound merely a faint, indescribable sickly smell; yet the one condition involves the other. To reach the second stage you must needs travel through the first; the one, to a certain degree, produces the second, the first being the more hazardous. Your patient thus far may possibly have escaped the Scylla, but he may yet sink in the Charybdis of profuse suppuration and pyæmic inoculation. That the inodorous products of putrefaction are really more dangerous than those attended with powerful smell, is also well proved in the curious, yet serious, conditions produced by cheese-poisoning and sausage-poisoning, of which we occasionally hear. Both are extremely subtle in their nature, both are attended with most serious symptoms, and both are but little amenable to treatment. Compare these cases, where the food which has been eaten has but little smell of putrefaction, with the use of high game and other articles of food in which the sense of smell is stimulated to no ordinary degree, and yet, beyond a passing diarrhoea, the person so indulging may suffer but little.

It is here worthy of remark that the site of putrefactive change on the surface of a wound may often be localised entirely for several days to the little spots where sutures are placed; and if these have been made of silk or thread which, although protected by a mixture of wax, resin,

and carbolic acid, do not retain their antiseptic powers, but allow the secretions of the wound to collect within their fibres and there to putrefy, they cause detached marks of a black or reddish brown colour on the oiled silk protective which cannot be washed off; and when such marks are to be seen, all the sutures should be removed immediately.

6. The sixth and last cause of failure is, being needlessly alarmed at certain complications which often arise; these being regarded as the harbingers of evil, the system is followed out less exactly, as if the case were hopeless, or it is forthwith discarded altogether.

The most common of these complications is the sudden appearance of redness in the skin near to the wound, which seems to forebode the advent of erysipelas; yet this rarely goes beyond the condition of severe erythema, and it is generally most easily subdued by using freely the oiled silk protective already referred to. This seems to moderate the irritation which the carbolic acid had occasioned, and the skin quickly recovers its healthy state. Even, likewise, where the pulse has become very rapid, the temperature very high, and some constitutional disturbance has been set up, these symptoms will eventually subside, and not advance to any very serious degree if the conditions of antisepticity be again secured.

The summing up of the whole matter is this: "*when you ask for Glenfield starch, see that you get it*"; and when you propose to conduct a wound or an abscess to a successful and speedy issue by the antiseptic method, if you seek for antisepticity, "*see that you really have it*"; from the very first moment in which you adopt the treatment to the last, see that you watch with scrupulous and suspicious care every possible inlet for sources of fallacy and failure, before you condemn or reject a system upon which judgment should not be held until it has been rigidly and fairly tried in all its details.

ON A DIGITAL IMPRESSION PRODUCED BY THE ACCOUCHEUR IN THE CRANIUM OF A FŒTUS DURING BIRTH: ITS HISTORY AND RESULTS.*

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I NARRATE the following case, only partly on account of its own interest and importance, having for a chief object to use it in order to make some remarks on a point in obstetrics which, I am convinced, does not receive due attention and consideration. It is well known that, in reporting results of medicinal or operative treatment or interference, a very common, if not the regular, mode of narrating the most favourable for the child is by such phrases as "*Born alive*", or "*Born alive and survived*". Such phrases give neither a complete statement, nor do they indicate what were the ultimate results of the treatment or interference. Conditions and results are omitted which are of the gravest importance—of an importance only less than that of life itself.

Many individual observations and the researches of Dr. Arthur Mitchell have shown that difficult labour, and especially operative interference, is occasionally the cause of insanity in various forms. Injuries of the physical frame of the child during labour may lead to permanent corporeal disabilities, as is well known; but it should not be forgotten that the soft and rapidly growing head of the child may be the subject of injury producing irremediable and awful results, even when the child is born alive and apparently in good health, without visible injury, and even although it may for many months appear to be in every way a proper child. The delicate brain may sustain irreparable damage even from the compression and shearing it undergoes, in what would be called a common moderately severe labour which terminates spontaneously. Paralysis, epilepsy, imbecility, insanity, may thus be produced; and there can be no doubt that more definite physical injury by instruments is still more likely to have such baneful consequences.

It may, indeed, be difficult in many cases to bring these ulterior results in surviving children home to their real cause; but the subject is still novel, and very much may be expected from continued careful investigation of the matter.

It is plain that all these results to which we have referred subtract from the reputed success of operations and interferences; and that, in

future, they cannot with propriety be neglected in forming judgments as to the value of them—inquiries in which the present race of obstetricians are warmly interested and actively engaged.

In the case to be narrated, the injury was inflicted by the finger of the accoucheur producing artificial rotation of the head in a case of narrow pelvic outlet, which the head was affronting in a slightly unfavourable position. The injury was a persistent digital impression on a parietal bone, such as the index finger would produce on the flat surface of a mass of dough into which its terminal phalanx was pushed to the depth of about half the finger's thickness. The result was slight, short, but very frequently repeated epileptiform seizures, which lasted for some time after the digital impression had become cured or disappeared, and which at last were gradually modified, becoming less and less, till now they are gone, being replaced by slightly awkward movements somewhat choreic in appearance.*

Mrs. C., married late in life, had her first child in England, in 1871. It presented the breech, and, after much time had been spent and much difficulty experienced, was extracted dead. The perineum was extensively torn, the sphincter being completely divided. In her second pregnancy, she came to Edinburgh, and was confined under my care. The propriety of inducing premature labour was urged upon me, but I decided not to interfere with the course of the pregnancy. At the proper time, labour came on, and advanced naturally and quickly till the head was arrested at the outlet of the bony pelvis. The vertex presented in the second position at the outlet, lying nearly transversely. The pains were powerful, and for about two hours did not move the head in the least from its position. Owing to the absence of perineal obstruction, the head was easily felt, and its condition examined. It was jammed in its position. Manipulation of it was easily effected; and I proceeded, in the absence of pains, to rectify its position by pressure on the left parietal bone in front of the parietal protuberance. The bone was felt to yield under the pressure, which had, however, some beneficial effect—the head rotating slightly, so as to bring the occiput more directly under the arch of the pubes. Repeated examination showed me at the time that a digital impression was produced and persisted; but for three days I took no further notice of it, not expecting any notable evil to arise from it. The child was born alive soon after the attempts at rectification, and did well. It is now alive, plump and happy.

On the third day after the child's birth, the monthly nurse attracted my attention to twitchings of the face and superior extremities. She had then noticed them for the first time; and for about three weeks they grew gradually worse, occurring frequently during night and day, but not greatly interfering with efficient sucking, and little with sleep. The nurse alleges that the spasms at first affected the right side only. After three weeks or thereabout, the twitchings were not so severe, but they continued distinctly till the child was six weeks old; they then gradually disappeared, and now the child, being 4½ months old, has only some occasional awkward movements of the upper limbs, as already said. Bromide of potassium was given irregularly, four grains being generally administered during the day. The irregularities in its administration led to the mother and nurse observing a coincidence of lessened severity and frequency of the fits and the regular use of the medicine, as well as the reverse.

At the end of a fortnight after birth, the impression had distinctly flattened out; and it rapidly became less and less marked till about six weeks after birth, when its previous site could no longer be made out.

SHORT NOTES OF A CASE OF IMPERFORATE HYMEN:

IN WHICH UPWARDS OF ONE HUNDRED OUNCES OF RETAINED MENSTRUAL FLUID WERE EVACUATED.†

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MARIA S., aged 20, single, was admitted into St. Mary's Hospital on April 30th, 1873. She stated that the abdomen had been gradually enlarging for some years without much discomfort, until the last few months. There had been no hæmorrhages. The abdominal cavity was occupied by a tumour which sprang from the pelvis, fluctuated freely, was dull on percussion, and extended centrally above the umbilicus, and laterally into the flanks. She voided her urine on her hands and knees with great difficulty. She suffered from constant

* The child is now perfectly well.

† Read before the Obstetric Medicine Section at the Annual Meeting of the British Medical Association in London, August 1873.

* Read before the Obstetric Medicine Section at the Annual Meeting of the British Medical Association in London, August 1873.