one should rely solely on the microscope, test tube, and blood test. He explained the necessity for the earliest treatment of both syphilis and gonorrhoea on the very first appearance of the symptoms. Therefore it was most important that the general practitioner should fit himself to treat, and should treat at once, the cases which came under his observation, and thus cut down the period necessary for a complete cure from years to months. With regard to compulsory notification, he was sure that the medical profession would never consent to divulge professional confidences until it was a statutory obligation to do so, and that such legislation would not come until the public demand was imperative. He thanked the authors of the very excellent papers read and the meeting for the very helpful discussion.

Dr. FINDLAY, in replying, said: The discussion has been so full that it will be quite impossible for me with the time at my disposal to deal with all the points raised. There are, however, three questions—namely: The significance of the Wassermann reaction, the significance of miscarriages, and notification—on which I would like to say a few words. I know that in many quarters, and especially in London, the Wassermann reaction is falling out of fashion, and is not looked upon with the confidence that I think it deserves. Personally I am a firm believer in the reliability and significance of the test when properly carried out. It is not a test that one finds behaving in an erratic fashion. If clinically one has no doubts that the case is one of syphilis, then it is most unusual to get a negative reaction, and conversely if one is certain from his clinical signs that the manifestations are not syphilitic it is very rare to find a positive reaction. If the test is negative I desire very good evidence that a case is syphilitic. In one's student days one used to admire the skill with which certain of one's teachers diagnosed syphilis in the absence of definite clinical evidence, but with experience one has come to the conclusion that it is easy—unfortunately too easy—to say a case is syphilitic in nature; it is much more difficult to say the condition

is not syphilitic. This brings me to the second point—the significance of miscarriages. Undoubtedly syphilis is a cause, and, unfortunately, a common cause, of miscarriages, but it is not the only one. If a woman continues to suffer from miscarriage, and gives a negative Wassermann reaction, then I think it exceedingly unlikely that syphilis is the cause, and that antisyphilitic treatment will be of any avail. From an analysis of my own cases 19 per cent. of pregnancies, whether in syphilitic families or non-syphilitic families, ended in miscarriage or stillbirth. I have listened with great interest to the various opinions expressed regarding the advisability or otherwise of notifying syphilis. Our President says that he feels that it will ultimately come, but that the public are not quite ready. Who but the medical profession are best able to judge of the advisability of the measure? It is our duty to educate the public, to show the advantages of such legislation, to dispel any misconceptions regarding its operation, and thus if we believe in it to make its adoption as soon in the future as possible. In any case, as I have said before, there is considerable inconsistency in our attitude to this question, as we are, in fact, notifying one variety on at least a consequence of venereal disease, namely, ophthalmia neonatorum. And, finally, if we turn to countries which have already adopted it, and even this notification by name—for example, certain of the United States—we find that it is giving satisfaction, and has not been followed by any of the great dangers which many of us prophesy.

Demonstrations.

In the afternoon various demonstrations were held. Dr. J. E. BARNARD, President of the Royal Microscopical Society, demonstrated the technique of dark-ground illumination for the detection of *Spirochaeta pallida*; Dr. MORNA RAWLINS showed instruments and methods of treating gonorrhoea in the female; while Colonel L. W. HARRISON discussed the question of gonorrhoea in the male. The demonstrations were very well attended.

LAPAROTOMY FOR RUPTURED UTERUS: CAESAREAN SECTION IN PLACENTA PRAEVIA.*

By SIR JOHN BYERS, M.A., M.D., M.A.O.,
PROFESSOR OF MIDWIFERY IN THE QUEEN'S UNIVERSITY OF BELFAST.

The following case is a good example of a spontaneous complete intraperitoneal rupture of the uterus occurring in a labour obstructed by a contracted pelvis, subsequently diagnosed, which had predisposed to the death in some form of instrumental delivery of the previous child:

Ruptured Uterus.

Mrs. C., aged 28, was taken in labour on November 24th, 1919. Her previous child was born dead, "instruments having been used." A nurse was with her, and about 1 a.m. on November 25th she was seized with severe abdominal pain, and the nurse, becoming alarmed, sent for a doctor, who, recognizing her serious condition, sent her to the Belfast Maternity Hospital, where she was admitted at 10.30 a.m., and where shortly afterwards I saw her. She was complaining of pain all over the abdomen, which on palpation was very tender. The limbs of a fetus were easily made out situated immediately under the abdominal walls on the right side, while on the left was felt the uterus containing a hard round body. Her face was drawn, and she had the "abdominal facies"; there was no pallor; the pulse was 130 and thready; the temperature was 99° F. There was no vaginal discharge, and on internal examination no presenting part was felt in the pelvis. The abdomen—as soon as the patient was anaesthetized with ether—was opened, when the placenta and all of the child except the head (which still occupied the cavity of the uterus) were found within the peritoneum. The placenta and the child were removed, when it was seen there was a rent of the uterus—about 6 in. in length—running from the right posterior surface of the fundus of the uterus down laterally through the right lower uterine segment, and it was through this opening that the child's head was easily delivered (the rest of its body and the placenta had already been extruded). The uterus was drawn well over to the left side by Dr. H. J. O'Prey, who assisted me, and the rent in the uterus was carefully sewn up, some trouble being experienced in suturing the lower and deeper parts of the tear. The abdomen was carefully sponged and then doused out with quantities of warm saline, and the abdominal wound was closed, no drainage

(abdominal or pelvic) being used. The patient rallied well and made an uneventful recovery. The child—a full-term male—was dead.

In a case of rupture of the uterus of a complete nature with the child (whole or in part) or the placenta in the peritoneal cavity, the best course is, as soon as possible, to open the abdomen and to remove the child and after-birth. If the wound in the uterus is not too ragged, and can be brought together, it should be stitched up as in Caesarean section, the peritoneum cleared of blood clot, etc., and, provided no previous attempt at delivery has been made per vaginam, drainage need not be used. If, however, the edges of the uterine wound cannot be suitably opposed and stitched, and if the patient is already in a septic condition, then the whole uterus should be removed, but this procedure adds still more to the patient's risks. In the present case of ruptured uterus the symptoms were more those arising from shock than from haemorrhage.

Caesarean Section in Placenta Praevia.

Mrs. H., aged 30, was sent into the Belfast Maternity Hospital on March 26th, 1920, from the district of Magheragall, near Lisburn, co. Antrim, in her fifth pregnancy. She had experienced several attacks of haemorrhage prior to admission. Placenta praevia was diagnosed, and being near full term, "she was sent to hospital in order that an attempt might be made to save the life of the child." I saw the patient the day after she was admitted. She was in fair condition, pulse 80; the child, which was alive, was in the R.O.A. position, the head being movable above the brim. On internal examination the lower uterine segment was felt enlarged and obstructed by a soft mass, and through the os, which was slightly dilated, the placenta could be felt. Two days afterwards (March 28th) she had a sharp haemorrhage, and immediately afterwards I delivered the child by Caesarean section. There was a little trouble at first in getting the baby to breathe, but it soon came round. The mother made a rapid recovery and she and her infant—a female weighing 7 lb. 15 oz., and 20 in. long at birth—returned home in good health.

That placenta praevia is still a most formidable obstetric complication is clear from the latest statistics as published in Dr. De Lee's *Obstetrics* (third edition, 1918), where it is recorded that of 2,153 women in different centres with placenta praevia 166, or 7.73 per cent., died, while the

* Paper read at a meeting of the Ulster Branch of the British Medical Association in Belfast, June 3rd, 1920.

mortality among the infants was 61.27 per cent. The mothers succumb from bleeding, sepsis, or sometimes as a result of rupture of the uterus caused by the methods used in delivery. The children die from prematurity and from asphyxia due to placental obstruction and placental damage arising during delivery. In every case of placenta praevia we must consider the amount of the bleeding as affecting both mother and child, the length to which pregnancy has gone, and the degree of obstruction offered by the placenta in its bearing on the mother (haemorrhage and sepsis) and on the child (asphyxia). Should labour come on in a case in which the placenta is marginal or lateral and the head is presenting, rupture of the membranes followed by spontaneous or artificial (forceps) delivery is the procedure indicated, but, even in these cases, stillbirth is often the result, and there is to the mother the risk of sepsis. If the child is dead or is not viable (that is, before the thirty-sixth week) then bipolar version (the method of Braxton Hicks), bringing down one foot and leaving the case to Nature, and using traction on the leg only to control any haemorrhage, if done with full aseptic precautions, is the plan usually adopted.

In those cases, however, in which the child is viable—after the thirty-sixth week—two plans have to be considered. The first is what is called metreuryesis—that is, the use of some form of rubber balloon (Champeret de Ribes's is the favourite one employed now), which acts so as to dilate the cervix, tamponade the lower uterine segment, and to induce labour, like the child's thigh and breech in Braxton Hicks's method. It was in 1887 that Mäurer introduced this manoeuvre, which Dührssen, and afterwards the French school, perfected, their idea being that it saved more children than any other then existing plan of treatment. The second and more recent method for managing a case of placenta praevia, when the child is viable, is Caesarean section; and certainly, if the woman is in good condition, the child alive, if the pregnancy has gone beyond the thirty-sixth week, and if there has not been too much bleeding (so as to exhaust the mother), then Caesarean section, in my opinion, gives a better chance for both mother and child, and the case recorded is evidence in support of such a view.

Suture Material.

In both the cases recorded here the wounds—natural and artificial—were sown up with thirty-day standardized Luken's tanned sterile catgut. In the recent discussion before the Royal Society of Medicine on "Rupture of Caesarean section scar,"¹ while attention was drawn to sepsis and faulty suturing, as causative factors in the giving way of a former Caesarean scar during a subsequent pregnancy or labour, special stress was laid upon the use of catgut, Dr. Eardley Holland pointing out that in 279 cases in which a subsequent pregnancy had gone to, or near to, full term, catgut had been employed, and in 91 silk; in the 279 catgut cases there had occurred 15 ruptures, making an incidence of 1 in 18, and in the 91 silk cases there were only two ruptures, making an incidence of 1 in 45. In other words, the liability to rupture after catgut was two and a half times the liability after silk. "Put in another way, if silk had been used instead of catgut throughout the whole series, and rupture had occurred in the same proportion as in the silk cases, the total number of ruptures would have been reduced to half"; and, in replying at the end of the discussion, Dr. Holland said the most important point revealed in his collective investigation was "the danger of catgut, and he hoped that those who used this material would renounce this dangerous practice." In reading an account of this most interesting recent discussion, I find no information supplied as to the precautions that were taken either in the selection or in the mode of preparation of the catgut used. Some of the speakers spoke of employing "ordinary" catgut (whatever that is), others of "chromic" or "chromicized," and still others of "picric" catgut; while again, one of those most experienced in doing Caesarean sections, recommended catgut for the deepest layers and for the peritoneal surface, and linen thread or fine silk for the bulk of the muscle. What one would like to ascertain is, what precautions were taken in the selection of the catgut, and as to its special preparation afterwards, so as to ensure that it was reliably aseptic and without any risk of conveying tetanus, and that it would not absorb too quickly in an organ like the uterus

with such extraordinarily rapid autolysis, or self-digestion, occurring immediately after delivery. The question is, may not failure in the preparation of the catgut (how easy, in contrast, is it to sterilize by boiling, silk, linen thread, or silkworm gut!) in some such points as asepsis and standardization for too short a period of duration before absorption be the cause of the failure of catgut in certain cases of Caesarean section to hold firmly together all the parts—especially the muscle layers—of a wound made in a puerperal uterus?

In a continuous series of thirty-nine Caesarean sections at the Belfast Maternity Hospital with one death (a case septic before admission) the suture material has been (with the exception of a few cases done with Merson's "iod-aseptic thirty-day" catgut) invariably the thirty-day tanned sterile catgut of Luken. Three cases have been twice "Caesareanised," and one three times. Four cases delivered themselves naturally in subsequent pregnancies (the original Caesarean section having been done in two of them for obstruction to delivery by tumours), yet, up to the present date, we have had no ruptures, nor have we in the repeated Caesarean cases seen any indication of the old "scar." Two methods in the suturing of the uterine wound have been employed: (a) Continuous layer suturing by my colleague, Mr. R. J. Johnstone, F.R.C.S. Eng.; and (b) interrupted deep and half deep sutures, placed close together, with a continuous layer bringing over the peritoneum, so as to bury the interrupted sutures, the plan followed by myself. Like Mr. C. Martin of Birmingham, who presided at the recent discussion, I formerly used silk in gynaecological work, but I gave it up for catgut owing to the trouble it sometimes caused in hysterectomy for fibroids; on two occasions I found, some months after operation, that, owing to the silk ulcerating into the bladder from the uterine stump, it formed the nucleus of a secondary calculus, while I also thought that some obscure cases of sepsis under the same circumstances were also due to the use of silk; at all events, neither of these unpleasant occurrences have since followed the substitution of catgut for silk. What we all want to get is clear scientific as well as clinical evidence to guide us as to whether silk, silkworm, linen thread, or properly prepared aseptic catgut is the proper suture material to use in Caesarean section.

P.S.—In reply to a letter of mine, Dr. Holland tells me in a courteous communication, dated June 18th, 1920, "The fact has come out that the catgut which was used in all the eighteen cases in which rupture of the scar subsequently occurred was chromic."

REFERENCE.

¹ Vide reports in *British Medical Journal*, May 22nd, 1920; and *Lancet*, May 15th, 1920.

THE RELATIONS OF DISEASE AND INJURY.*

BY

A. MCKENDRICK, F.R.C.S. ED., D.P.H.

ON analysing the last 500 cases referred for examination under the Workmen's Compensation Act I find that in forty (that is 8 per cent.) of these the main question at issue was the relation of disease to the injuries received.

Only if a relation exists is the employer held liable, and it is easier to assert than to disprove a relation. The cases are certainly medico-legal, but the medical examiner must keep as far away from the legal aspect as possible. The lawyer has a duty to his client, but the duty of the medical examiner is to guide the court and not to influence it. This can only be done by a rigid adherence to known medical facts. It is the elasticity of the medical witnesses' imagination which has merited the phrase "doctors differ." It is the forced admission in court of "might possibly" which gives to the shrewd lawyer his chance to win, altogether apart from the actual merits of the case.

I have heard half a dozen different opinions expressed in court on the same case by six different doctors on this question of relation of disease to an injury. All were agreed that the man was suffering from disease, and all were aware of the alleged accident. One maintained that the disease was directly attributable to accident, another

* A paper read before the Edinburgh Pathological Club.