later, and a minute white speck was found at the point of injection ; no other morbid appearances.

SERIES IX.—Acute abscess of the mamma. Micrococci found in pus, and cultivations obtained from it.

Five minims of these micrococci, growing in meat-infusion in the presence of air, were injected subcutaneously into a monkey and a rabbit respectively. No effect was produced in either case.

SERIES X.—Micrococci from contagious ophthalmia, grown on unneutralised meat-gelatine. A flask of meat-infusion was inoculated from this and grown in air. Two and a half cubic centimètres were injected into the jugular vein of a rabbit without effect. Ten minims injected subcutaneously into a rabbit produced no effect. Five minims injected subcutaneously into a mouse had no effect. Two and a half minims were injected subcutaneously into a mouse ; the animal died five days later ; there was no trace of abscess.

SERIES XI.²—A month later, another flask of meat-infusion was inoculated from the same tube, and two and a half cubic centimètres of the fluid were injected into the jugular vein of a rabbit without effect.

Two cubic centimètres of the same were injected into the jugular vein of a rabbit, and ten minims subcutaneously, without effect.

These micrococci were also grown in hydrogen gas, and two cubic centimètres were injected into the jugular vein of a rabbit without effect.

Six minims of this cultivation were also injected subcutaneously into a mouse without effect.

SERIES XII.—Micrococci obtained as accidental impurity of a cultivation on gelatine.

Four cubic centimètres growing in meat-infusion exposed to air were injected into the jugular vein of a rabbit, without effect. Two cubic centimètres growing in the same medium were injected into the jugular vein of another rabbit, without effect. Fifteen minims were injected subcutaneously into a rabbit, without effect. Five minims were injected subcutaneously into each of two mice, without any effect.

Here the result is the same as with the micrococci obtained from wounds, namely : there are different forms of micrococci, some of which may be injected subcutaneously, or into the veins of rabbits, without producing abscess or, indeed, any bad effect ; and when they are without effect when growing in air, they are not converted into dangerous organisms when grown without oxygen.

² As already stated, the micrococci die in three or four days in the amount of fluid which I put in the flasks ; but, when growing on gelatine, they develop much more slowly, and use up the nutritive material more gradually. Hence they were alive in this case a month after the tube was inoculated.

[To be continued.]

MANAGEMENT OF NEW-BORN INFANTS.—*The Medical World* says In the management of the new-born infant we are gradually approaching nature's methods. In the maternity department of the Woman's Hospital in Philadelphia the management of new-born babes has been as follows. As soon as the head is born the eyes are washed with an antiseptic solution. When the body is born the child is left in the bed to await the expulsion of the placenta. No effort is made to remove the placenta under half or three-quarters of an hour ; before this time it is generally expelled by nature. When the placenta is expelled it is placed in a pan, and the child is wrapped up and laid away with the placenta still attached. The child is now left and the attention is given to the mother. After the mother is properly cared for, the child receives attention. By this time the pulsations in the cord have long since ceased. The cord is now cut and the blood is "stripped" out of the stump but neither end is ligated. The stump is not dressed, nor is any band put around the child's body. The child is neither washed nor dressed, only a diaper and a simple "slip" or gown is put on, and then it is warmly wrapped up and put in a little bed to itself. After twenty-four hours it is taken to the baby's bath room (which is properly heated) and there it is washed and dressed. Dr. Tyng, the physician in charge, tells us that since this plan has been adopted the babies get along much better. We were in the wards of this department about an hour, and during this time we did not hear a single cry from the babies. They all seemed contented and happy and were doing well. We are convinced that washing the child immediately after birth, and keeping it half-naked for a long time during the process of careful dressing, is not good practice.

BRITISH MEDICAL ASSOCIATION.

FIFTY-SECOND ANNUAL MEETING.

PROCEEDINGS OF SECTIONS.

ON UTERINE HÆMORRHAGE AND A NEW METHOD OF TREATMENT.

Read in the Section of Obstetric Medicine.

By the late RICHARD RICHARDSON, L.R.C.P., Rhayader.

I SHALL not take up your time in considering the physiology and pathology of uterine hæmorrhage, but shall devote attention more particularly to the treatment which has been most successful in my hands during a period of twenty years. I was anxious to find a reliable remedy which could be easily applied without any apparatus ; these advantages I have found in iron alum when applied in crystals of the size of a hazel-nut, or even larger in a severe case. It is to be introduced with the finger up to the os uteri (and not into it), and there allowed to remain. The uterus will at once contract, a firm coagulum is formed, and the hæmorrhage at once ceases. Iron alum is also antiseptic ; as I have removed clots on the fourth and fifth day after its application, which were quite free from any disagreeable odour. In a case of very severe hæmorrhage, two or three days afterwards I inject a little warm water (to which may be added, if you like, a little Condy's fluid) and remove the clots. It is perfectly free from danger, and I have never known it to fail.

CASE I.—My first application of iron alum was in the case of a woman aged 43, troubled with metrorrhagia for about nine days, and recurring every two or three days ; she was the mother of six children, the youngest of whom was 4 years old ; the catamenia had appeared very regularly since she weaned her last. She was sure she had not aborted, as she was "poorly" a fortnight antecedent to the hæmorrhage, which was the proper time for menstruation. On examination, I discovered a granular ulceration of the cervix ; I treated her with quinine, digitalis, gallic acid, and sufficient dilute sulphuric acid to dissolve the ingredients. She was ordered to remain in the recumbent posture with cold cloths applied to the vulva. In three days the hæmorrhage again came on. Two days subsequently to this I determined to try iron alum, and introduced a small crystal of the size of a pea ; the bleeding ceased at once. On the following day I examined the patient, finding two or three clots in the vagina which were perfectly dry, and which crumbled between the fingers on rubbing them ; I injected warm water and examined the os, which was now nearly free from all granulations. Another piece of iron alum was applied, and there was no recurrence of the discharge. On the fourth day the granular ulceration had thoroughly healed, and the patient was cured ; for some time she was very anæmic, and required iron tonics ; but she soon recovered her strength, and has been well up to this time.

CASE II.—The next was a case of an abortion happening to Mrs. W., who had given birth to two children previously to this, the youngest being 2 years old ; she was now advanced three months in pregnancy, and awaking one night found herself saturated with blood. She sent for me at once, and on arrival I found her in the following state. The napkins and sheets were completely soaked in blood ; pulse 120 ; the lips were blanched ; the cheeks pallid. The os uteri was very little dilated, and pains were coming on at long intervals. I applied a crystal of iron alum of the size of a nut to the os ; the discharge stopped. Ergot and opium were administered every two hours. On the second day there was no pain, and no reappearance of the discharge. The patient slept well during the night ; there was no internal hæmorrhage ; the os was not dilated ; pulse 96 ; ergot was ordered to be continued every two hours. On the third day there was a good deal of bearing-down pain, but no hæmorrhage ; ergot was ordered every quarter of an hour. Two hours afterwards the ovum was expelled complete, and appeared like an old clot ; there was no hæmorrhage. The patient soon convalesced.

CASE III.—The next case was one of menorrhagia in a lady, aged 40, the mother of six children, the youngest being 4 years old. Her last two periods were excessive, lasting seven or eight days, with a slight mucous discharge for some days afterwards. I was sent for on the sixth day ; she then had a copious discharge of blood. On examining her with the speculum, I found she had endocervicitis. I applied the iron alum with perfect success, and prescribed quinine and iron. During the next monthly period, she had the same treatment on the

fourth day. From that time she quite recovered, and six months later was pregnant. She went to the full term, had a natural labour, and gave birth to a daughter. The patient recovered rapidly.

From that time to this, I have used the remedy in all cases of uterine hæmorrhage where an immediate styptic was required; in accidental, unavoidable, and *post partum*, as well as in secondary hæmorrhage. I shall briefly quote two or three extreme cases to prove its value.

CASE IV.—I attended Mrs. J. in a previous labour, when she had a frightful *post partum* hæmorrhage. I then had to inject liquor ferri perchloridi three times before the bleeding stopped. The second time I attended her, and used every precaution during the labour; the hæmorrhage appeared notwithstanding, as soon as the placenta was expelled: I injected the perchloride of iron once, but with no effect; I therefore introduced a good sized crystal of iron alum, which stopped the flow at once. I should have remarked that this patient showed all the symptoms of embolism in her first labour, which placed her in extreme danger for twenty-four hours.

CASE V.—Another case was that of Mrs. P., who lived four miles distant in the country. The child was born before the messenger started, he bringing the intelligence post haste that the woman was flooding to death. After a hurried journey, I found the patient quite moribund, pulseless at the wrist, cold, and completely blanched. The placenta was expelled, and the bed thoroughly saturated; there even was a pool of blood on the floor under the bed, the blood having percolated through everything. I applied the iron alum at once, and injected sulphuric ether hypodermically into the arm, repeating this in ten minutes. A quarter of an hour afterwards, the pulse became perceptible in the large vessels. I gave her brandy and milk every half-hour. She had no further hæmorrhage; the binder was applied, and I left the woman, with the caution that her head should not be raised from the pillow. Her convalescence was slow, and she was a long time before she recovered her colour.

CASE VI.—I shall here give a short description of a case of secondary hæmorrhage occurring with Mrs. P., who lived ten miles away. I was sent for in her first childbirth. When I arrived, the child was born, and the placenta delivered. I asked the nurse where the placenta was; she said, "it is buried." I always like to inspect the placenta, thus knowing whether it is all come. The patient seemed to be going on well; no hæmorrhage; there was no pain; the pulse was 78; and the binder was properly applied. On the sixth day, I was sent for in great haste, as the woman was flooding frightfully. On my arrival, I found the patient very weak from loss of blood. I applied iron alum, and prescribed quinine and ergot. Three days afterwards, a small piece of placenta was expelled, together with an old clot of blood; the woman gradually recovered.

I have a record of 82 cases of uterine hæmorrhage where this remedy was applied without a single failure; menorrhagia, 10 cases; metrorrhagia, 18; abortions, 15; accidental hæmorrhage, 7; unavoidable hæmorrhage, 4; *post partum* hæmorrhage, 22; secondary hæmorrhage, 6.

In *post partum* hæmorrhage, it is advisable always to clear the uterus of clots or any portion of placenta before applying the crystal; also, in accidental hæmorrhage, when there is detachment of placenta, should the case appear to be one where there is no chance of carrying it to full term, the membranes ought to be punctured, and the iron alum applied in the usual way. There is no fear of any very great hæmorrhage coming on afterwards; in a slight case, the iron alum will stop it; but, if the hæmorrhage should recur, it would be advisable to have recourse to puncturing the membranes, and induce labour. By way of comparison, I shall here enumerate most of the local remedies hitherto used in uterine hæmorrhage; namely, the tampon, compression, friction, galvanism or electricity, ice, injection of hot and cold water, cold water applied to the vulva, cold douche on the abdomen, pressure on the abdominal aorta; and last, but not least, the injection of liquor ferri perchloridi. Most of these require an apparatus for their application, which may not always be at hand; and, in addition, some time would be taken in their preparation and administration. Furthermore, there is the always present danger of injecting a styptic into the open mouths of the uterine vessels; also cold applications, when the body is already too cold, must be injurious. Now, iron alum does not require any apparatus, or any preparation, as it is ready at hand; it will bring on immediate contraction of the uterus, which is the chief aim and object in the treatment of these cases; as remarked before, it does not require to be introduced into the uterus, only into the vagina, close to the os uteri, and there left.

The preparation is both cheap and effectual. I had some pessaries of it prepared by Messrs. Ferris and Co., which I found expensive, and no better than the crude crystal; I therefore discontinued them.

I find the crystals made with ammonia more permanent than those made with potash, and therefore more to be preferred. Since I began using the crystals I never go to a case of labour without them; I have also used the pieces (too small to be introduced) tied up in a piece of muslin, leaving the ends of the string hanging outside, so as to more readily remove the alum on the following day; this method answers quite as well. One of my former assistants, Mr. G. Tombs of Llanwrtyd Wells, wrote to me.

"I have very great faith in iron alum since I learnt its value from you. I have used it very extensively, and can testify to its efficacy in uterine hæmorrhage. I have applied it in abortion, accidental and *post partum* hæmorrhage, with the best result. In fact, in my experience I have not known it fail. I never go to a midwifery case without taking iron alum with me."

Another old assistant, Mr. J. W. Hinings, of Bromyard, says:

"I have used the iron alum in three cases of milder *post partum* hæmorrhage, too severe to be left alone, and have been satisfied with its operation."

My son, Mr. F. L. C. Richardson, says: "I use iron alum, when there is the least tendency to uterine hæmorrhage in *post partum* cases, as a safeguard; but I found it invaluable in four extreme cases, as they were in a moribund state. I never undertake a midwifery case without bringing iron alum along with me, as a reliable companion to ergot and tincture of opium."

My friend, Dr. Talfourd Jones of Brecon, writes to me as follows: "Since you first recommended to me, some years ago, the local use of iron alum in uterine hæmorrhage, I have used it on several occasions in cases of threatened abortion accompanied by troublesome bleeding, and I have found the remedy extremely useful and valuable, very certain and rapid in its action. It is well to bear in mind that it is apt to occasion considerable soreness of the vagina, and in one instance it gave rise to vaginitis."

The soreness after the application referred to by Dr. Jones I have never yet met with. It is probable, if a person wished to make an examination very soon after its application, there would be great contraction of the parts; and in introducing the fingers some pain would undoubtedly be occasioned. It is better to wait until the following day to do so, having first of all sent up an injection of warm water to remove clots, etc.

I have also applied the remedy in four cases of uterine cancer, where the hæmorrhage was very considerable and frequent. It controlled the bleeding entirely, and was re-applied on its recurrence. It also acted as a good antiseptic in these cases, and was the means of making the patients' lives more comfortable during the last six months of their sufferings. I have used it in several cases of leucorrhœa with great benefit. I wish my medical brethren to give it an unbiassed trial; and some, who are engaged in this speciality in large towns, would have ample means of doing so, as they would be likely to meet with more cases in twelve months than I would in ten years, owing to the difference in population.

Finally, I would supplement the treatment of hæmorrhage by constitutional medicines, such as are generally recommended; namely, ergot, opium, digitalis, gallic acid, sulphuric acid, turpentine, acetate of lead, and transfusion and hypodermic injection of sulphuric ether in collapsed cases. Of these, the most reliable remedies are the first two and the last two.

Dr. MURPHY (Sunderland) said that Mr. Richardson was to be congratulated on the success of his cases, but if they were analysed, as far as he had had time to record them, they were four. The first was a case of granular ulceration, where no doubt the local application of a styptic would be of service. The second was a case of abortion, where ergot was given every quarter of an hour, which stopped the hæmorrhage, where the external application of a styptic would be useless. The third was a case of endocervicitis, where the application was probably made directly to the bleeding surface. The fourth was a case of *post partum* hæmorrhage, where the intra-uterine injection of perchloride of iron was also tried. It therefore seemed to him very undesirable that it should go forth that iron alum, or, indeed, the application of any styptic whatsoever, applied to the os uteri, could be of the slightest service in the treatment of any form of uterine hæmorrhage, except those occurring from the os itself. The causes and sources of uterine hæmorrhage were too various to be amenable to a single method of treatment.

Mr. BERNARD (Londonderry) said that, in *post partum* hæmorrhage, which was rare, according to his experience, if it were deemed necessary to remove coagula and inject perchloride of iron, both could be performed simultaneously, through the medium of a Clover's spray apparatus.