There is generally a small reducible swelling over the external abdominal ring. It rarely passes down into the labium majus as in the adult female. In only 4 cases were any contents present in the sac. The omentum lay loosely in the sac in a girl aged 10½, while in two children, aged 13 months, and another aged 3 years, the ovary and Fallopian tube were the contents.

In one case the sac was tuberculous, a nodule of granulation being felt, resembling very much the ovary before operation.

When the ovary is present in the sac the Fallopian tube is almost always also present. Hernia of the ovary occurs in the majority of cases through the inguinal canal. Femoral ovarian hernia only occurs in the proportion of 1 to 9, according to Devreux, as compared with the inguinal form, or 17 to 91 according to Bitzako. Femoral hernia generally occurs in adult life and is acquired, while the inguinal form is generally congenital.

The congenital forms are almost always associated with abnormal development of the uterus, etc. According to Puech, 33 out of 88 cases had congenital malformation, while the acquired form in adult life is associated with normal genitalia. The explanation of the occurrence of the congenital form is to be found probably in the development of the canal of Nuck, caused by a protrusion of the peritoneum following the round ligament, like the testicle and funicular process. The relation of the ovary and testicle to the peritoneum is different, the former lying within the sac and the latter outside it, so that the analogy of ovarian hernia with the descent of the testicle fails in this respect. The relation of the round ligament to the canal of Nuck is an interesting one. According to Waldeyer, the peritoneum covers the round ligament above and in front, but does not surround it, while Devreux considers it is attached to the apex of the so-called canal of Nuck. In the cases operated upon the round ligament appeared distinct up to the apex of the sac and then seemed to spread out and become lost on the exterior of the sac. Puech believes such inguinal herniae are always due to a shortening of the round ligament, while Lockwood believes the condition to be due to an abnormally long mesentery.

It is not always easy to reduce the ovary and Fallopian tube into the abdomen in those cases in which they lie well down in the sac.

The sac is apparently formed by the portion of parietal pelvic peritoneum which gives off the broad ligament, or by the separation and spreading out of the two folds of the broad ligament, as in the two cases in which the ovary and Fallopian tube were present; they were firmly attached to the posterior wall of the sac by the mes-ovarium and mesosalpinx. In both cases these two folds of peritoneum had to be divided in order to reduce the organs.

In the published cases of ovarian hernia in the adult, the ovary apparently functionates, as it has been noticed to swell and become sensitive at the menstrual periods, and it is interesting to note with regard to this that, in some cases of double ovarian hernia, one ovary alone swelled at a menstrual period and the other at the next period, as if they functionated alternately during menstruation.

This would seem to show that the abnormal position of the ovary does not interfere with its function, and cases of ectopic gestation in the hernial sac have also been recorded. The question, then, comes to be: Are we to treat the displaced ovary like an undescended testicle, and remove it?

Those that reach adult life in the abnormal position are generally sensitive, and microscopically show changes due to chronic ovaritis, and are liable to give rise to symptoms of obstruction such as are presented by torsion of the testicle, or pass on to cystic and other forms of degeneration.

One cannot consider it justifiable to remove the ovaries, or even one ovary, in a young child, as some authorities would advise, even though the chances of their ultimately causing trouble are considerable.

I have examined a large number of ovaries in children, removed at different ages *post mortem*, and have been struck by the fact that not only the anatomical position but also the size, shape, and thickness varies very considerably at the same age in different children. I have seen the ovary long and flat in one child, while short and

thick, resembling a small bean, in another child of the same age, so that one cannot argue from the shape and size as to whether the ovary is normal or not. The differences are much more striking than in the adult, so that an ovary in a young child which is apparently thickened and enlarged is not necessarily pathological.

By dividing the mesovarium and mesosalpinx, the ovary and Fallopian tube can be freed sufficiently to be returned within the abdominal ring, and unless gross changes are apparent it is not justifiable to remove the organ.

THE X-RAY TREATMENT OF RINGWORM.

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For some months past Sir Cooper Perry has sent the majority of the cases of ringworm and parasitic alopecia from his out-patients and elsewhere to me for treatment.

Up to December 7th, 1905, I have had 102 patients; of these 67 still remain under observation, for I presume that no case can be conscientiously discharged until the hair has not only fallen out but has also shown considerable regrowth free from disease.

In a poor out-patient practice also a great number of patients, for various reasons, do not attend regularly, so that probably a large percentage of these 67 cases will never be seen again.

Of the remaining 35 cases, 30 were ringworm and 5 alopecia areata. Of the alopecia areata cases 4 are recorded as cures and 1 case was just beginning to grow, but did not attend again to be seen.

Of the 30 ringworm cases, 11 were cured, 10 were failures, and 9 ceased to attend before a definite result could be pronounced.

Among the 102 cases I have had one case of *x-ray* dermatitis, still under observation, which I am afraid will result in permanent baldness. I regret to say that this case occurred, not among my earlier but among my very latest patients. I venture to think that an unfortunate mishap like this, occurring towards the end of somewhere about 100 cases, vividly illustrates the danger with which this method of treatment is accompanied.

Of my 30 cases of ringworm which I look upon as discharged, 9 have disappeared on their own responsibility without conclusive result; of the remaining 21, 11 have been cures and 10 failures—that is to say, roughly, my successes in the *x-ray* treatment of ringworm are 50 per cent. There is no other treatment of ringworm that can claim such a result. Against this, in 102 cases I have had 1 burn which will result in permanent baldness—that is, the danger of a catastrophe is under 1 per cent.

These figures make it appear that at last we have found a really reliable treatment, with very fair prospect of cure, and very slight danger of injury, for ringworm. I am very much afraid that this is not the case.

Leaving my own cases I will for the moment generalize. The advantage of the *x-ray* treatment is that in successful cases a singularly intractable disease, occurring unfortunately at a time of life singularly important from an educational and developmental point of view, is once and for all eradicated. But here I would say that it is only in localized cases of ringworm that such a result should be expected; if it be generalized, or in scattered patches all over the head, more than one treatment is necessary.

In successful cases the depilation should occur three weeks after treatment, and the hair should be growing well in, say, three months. So a cure may be looked for to be pronounced successful in, say, six months. This result against other treatments is six months against six years (if lucky) or more.

The disadvantages are: (1) A specially-trained nurse is necessary to carry out the treatment; (2) the danger of an *x-ray* burn; (3) the difficulty of regulating the dose of *x* rays.

A specially-trained nurse means expense, and at the present time it is not right to entirely disregard the danger to which a constant worker in the *x* rays is exposed.

Secondly, with regard to the danger of an *x-ray* burn, it is significant that my single case (so far) occurred after

so much experience. I believe that idiosyncrasy goes for much; it seems to me that light-haired, fair-complexioned people, those who would be expected to suffer most from sunburn, are most likely to be singularly sensitive to the x rays.

Thirdly, the difficulty of estimating the dosage of x rays. Here we arrive at the crux of the whole difficulty. In the first place, x -ray tubes are most unstable and alter almost from moment to moment; and in the second, although we can measure tolerably correctly what goes into a tube, our means of estimating what comes out of it are dependent on far less reliable data.

Besides the three disadvantages mentioned above there is, fourthly, the class of case to which most of my failures belong. There is no burn, and the patient suffers no harm, but has all the bother and expense of the treatment, and still suffers from ringworm. These are cases in which the hair comes out patchily, and small scattered islets of infected hairs are still left dotted about all over the scalp. One is afraid to repeat the treatment for fear of inducing dermatitis, and when the hair grows again on the denuded areas it becomes reinfected from the older spots. These cases are most disheartening for both doctor and patient, as the only thing to do is to wait patiently for all effects of the treatment to disappear and then start again; by which time—at all events, in a hospital out-patient department—you have probably lost your patient for ever.

Another fact, which may or may not be a disadvantage, is that even when it has grown considerably the new hair is often of a different colour to the old; this change is, I should think, only temporary, analogous perhaps to the pigmentary changes observable in the skin itself after x radiation.

Coming now to the technical details of treatment at Guy's we usually work as follows:

1. The patient's scalp is kept 6 in. from the anode.
2. The tension of the x -ray tube is kept as nearly as possible at the equivalent of an electric spark of 3 in. in the air.
3. The amount of current in the secondary circuit is 0.20 to 0.30 milliampère.
4. Sabouraud's pastilles are used as a check.
5. The time—unless Sabouraud's pastilles have changed before—is not to exceed in some cases twenty, in others twenty-five, minutes.
6. A tightly fitting lint cap is fitted on the child's scalp, and on this is marked out an H, which divides the scalp into two lateral, a medio-frontal and an occipital area. These areas are treated one after the other for the time specified, the spaces not exposed being protected by fairly thick lead foil, which is held in place by a coarse elastic net, a very useful little device, this latter, which was designed by Nurse Hill of this department. The child is then seated as comfortably as can be in a chair and kept still during the radiation, which seems also to exert a decidedly somnolent effect on most children. Most workers, I believe, have obtained very consistent results with Sabouraud's pastilles. I am very sorry to have to admit that this is not my experience. Some seem to change much more quickly than others.
7. With light-haired, delicate-looking children the shorter limit of twenty minutes is sufficient; with dark-haired, strong and older children—and in cases of parasitic alopecia areata the limit may be extended to twenty-five minutes.

The careful attention to all these details requires much patience on the part of the nurse, and a single treatment with the head divided into four parts takes about two and a half hours.

I must here refer to the method introduced, I believe, by Dr. Macleod of Charing Cross Hospital, of attempting to obtain an exact dosage of x radiation by means of measuring the interruptions in the primary circuit. The method is a distinct advance, and an advance, too, on scientific lines, but it is yet too early to know if this is the last word on the subject. Speaking with due deference, it seems to me that, while it is a very beautiful and exact method of regulating what goes into the tube, it is really only an indirect way of estimating what comes out of it.

Professor Schiff, perhaps the greatest exponent of x radiation living, did me the honour a few weeks back of coming to see me in my department at Guy's. He told me that he had not found Sabouraud's pastilles reliable enough to be an absolute criterion, and that he relied on the visual appearance presented by the phosphorescent tube when excited, and his experience, when ordering the length of time the sitting should take.

I have perhaps said enough to show that the x -ray treatment of ringworm is by no means perfect as yet; it must still be considered on its trial. So long as cases are

treated by those who thoroughly understand the dangers likely to be met with, perhaps the method may be recommended; but it should be thoroughly understood that until we have an exact regulation of the x rays, and until x -ray tubes are far more stable than they are at present, it is not a treatment that is absolutely free from danger, which, if remote, is at the same time real.

DOES DIACHYLON AFFECT THE INFANT WHEN IT FAILS TO PRODUCE ABORTION?

BY
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Does diachylon affect the infant when it fails to produce abortion? That this may be so is suggested by the following case:

Mrs. B., a young woman in her third pregnancy, had symptoms of abortion at the third month. She had severe paroxysmal pains both uterine and intestinal, with vomiting and constipation. The external os uteri was patulous, but there was no haemorrhage. There was a distinct blue line on the gums. She persistently denied having taken anything. She was confined to bed for two weeks, after which she remained well until her confinement at full term. At the confinement the blue line was looked for, but had disappeared. The average time necessary for the complete removal of the blue line is about six months.

Owing to considerable prolongation of labour extraction by means of forceps under chloroform became necessary. The infant breathed badly, but lived for twelve hours. The head was large, measuring 16½ in. round its largest circumference. There were no marks of injury to the head. It was at this time that Mrs. B. admitted having taken pills of lead plaster; on discovering her condition she took three to four daily for a week, and then left off, as they did not appear to be doing anything. The symptoms of lead poisoning did not appear until a month after she had taken the pills.

A *post-mortem* examination of the child was made, and showed all the organs to be normal except the brain. The brain showed a marked condition of hydrocephalus, the ventricles containing fully a pint of fluid; the cortex was markedly thinned and the convolutions flattened. Haemorrhage had occurred into and around the middle lobe of the cerebellum, partially destroying it, and covering the roof of the fourth ventricle.

Microscopic examination failed to discover any evidence of antecedent inflammation, so that probably the haemorrhage occurred during the labour. The liver was reserved for chemical examination, which showed the presence of lead in the proportion of 0.0002 per cent.

The method of examining the liver was as follows:

Two ounces were finely divided and carbonized. The carbonized residue was then boiled with strong sulphuric acid as in Kjeldahl determination of nitrogen till completely dissolved. (Both flask and acid were quite free from lead.) When dissolved the acid was diluted and treated with alcohol to throw down lead sulphate; this was filtered off, converted into carbonate, dissolved in dilute nitric acid, and the lead estimated by a calorimetric method.

Although there is no evidence that the hydrocephalus was due to the lead, yet we have here proof that lead taken by the mother does reach the fetal circulation, is deposited in the fetal tissues, and is very slowly removed. We therefore think it worth while to publish this case in the hope that the many practitioners—who in these days of diachylon-poisoning have ample opportunities of definitely deciding this question—may be on the look-out, and through the medium of the BRITISH MEDICAL JOURNAL let it be known whether the fetus which diachylon has failed to expel is in any way injured.

THE late Miss Louisa Frances Stains, of Ipswich, whose will has now been proved, left £1,000 for the endowment of a bed at the East Suffolk Hospital, and a sum of £200 to the Convalescent Home at Felixstowe.