CASE III.

Dr. Dieupart recently treated a patient sent to him by a *dispensaire antituberculeux*, who had phthisis with bacilli in the sputum, and also tuberculous disease of the left wrist, which had prevented any use of the joint for several months. After twelve injections the swelling of the radio-carpal joint completely disappeared, and the patient recovered all the normal movements at the wrist-joint.

The authors, in their original communication, came to the following therapeutic conclusions:

1. That "radio-active iodine and menthol" destroys the bacillus of Koch. In all the cases in which the sputum has been systematically examined microscopically before and after the injections, it was found, first, that the bacillus took the stains less well, that it was in a degenerating condition, and that it became rarefied, and finally disappeared.

2. That radio-active iodine and menthol has a powerful action on streptococci. In tubercle, the existence of a mixed infection implies generally a bad prognosis: streptococci and staphylococci seem to increase the toxic secretion of the bacillus of Koch. Radio-active iodine with menthol destroyed streptococci very rapidly. In two grave cases of sore throat with streptococci Dr. Kaminski found on the third day that the throats were cured, and that no streptococci were present. Dr. Bernheim has noticed that after the injections the streptococci, which were numerous in the sputum in some cases of phthisis, diminished in numbers, and eventually disappeared.

3. That radio-active iodine and menthol improved the general condition of the patients. In these conditions the destruction or attenuation of the bacilli, *ipso facto*, brought about the disappearance from the organism of the toxins secreted by them. Every patient—even hopeless cases—felt a great improvement in his general condition. He found that patients who were exhausted and could no longer walk, were, after treatment, able to walk without fatigue; hopeless cases, which could not be cured, could take walks; those with intense dyspnoea were again able to breathe freely. Many patients had returned to work, feeling stronger and more cheerful.

4. That this product seems to possess a dynamogenic action. The radio-active emanation appeared to be manifested in the patients by facts that could be, so to speak, mathematically proved. They were imbued with a feeling of strength and renewed life. This increased strength was remarked in practically all the cases. Neither menthol nor iodine could cause this, and it could only be explained by the emanations of radio-active barium chloride, which thus confirmed the opinion of Szendeffy, Wickham, and Degrais.

5. That this product caused an increase in weight; this increase, which was observed in every case, was fairly rapid. Some increased a pound a week; others who came in bad condition, their sputum teeming with bacilli, put on weight in a remarkable way; even patients with cavities, and in whom the prognosis was fatal, also increased in weight.

6. That the beneficial effect of the product persisted in spite of intercurrent affections. Some of the patients had influenza, or dry pleurisy, and had to stay in bed and stop the injections for several days; these acute attacks were mild and of short duration; there was simply an interruption in the radio-active treatment, without any aggravation of the local or general symptoms.

7. That radio-active iodine and menthol cured tuberculous glands. Several cases were quoted in support of this.

8. That the treatment had an action on tuberculous laryngitis. The authors quoted two cases in which the improvement was manifest; at the beginning of the treatment the voice was weak, raucous, and broken; gradually after the injections the normal timbre of the voice returned.

9. That the product acted locally on tuberculous lesions, diminished the quantity of sputum, suppressed the cough, and caused the fever and night sweats to disappear.

10. That the treatment made the gastric functions more regular. In many of the cases bad appetite had been the rule for a long period; there were some cases with occasional vomiting, and absolute intolerance on the part of the stomach, so that such cases could not be treated by hyper-alimentation. After the radio-active treatment the appetite always returned.

The experiments with radio-active iodine and menthol are not of recent date, as some writers have stated, but have been carried on for more than three years. This compound, after laboratory experiments, has been applied, followed and controlled by a large number of independent medical men, working in open and public sanatoriums, dispensaries, and hospitals, and its action has been proved, so that it is impossible to doubt of its efficacy.

The composition of the compound is given as follows:

Peptonized iodine...	...	0.75 gr.
Menthol ...	...	0.06 gr.
Radium barium chloride		
One-tenth of a drop of ether solution.		

The compound is put up in sterilized tubes of 1 c.c.m. each, and is given by Dr. Bernheim by intramuscular injection in the gluteal region. The injections are given in series of forty—one every two or three days for five or six injections, to test the susceptibility of the patient, and then one every day till thirty have been given; then one injection every other day. After ten days' interval a new series of forty injections is given.

It is now being tried in numbers of the hospitals in Paris and elsewhere, and this is doubtless but the beginning of fresh researches in radio-activity, analogous to those already carried out by Dr. Danlos, in the Paris hospitals, and by Drs. Wickham and Degrais at the Radium Institute. It is almost certain that this method will be improved, the doses of radium injected being gradually and with prudence increased, but the profession will read with interest the results already obtained from scientific research and clinical observation.

ON CAESAREAN SECTION: WITH NOTES OF TEN CASES.

BY

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I PRESENT very brief notes of the cases. These notes are arranged in the form of a table. This arrangement is the one adopted by Dr. Amand Routh in his report to the recent International Congress of Obstetrics and Gynaecology held in St. Petersburg, and he has kindly given me permission to make use of it.

Every case in which I have performed Caesarean section is included in the table appended to this paper. All the operations were performed in the Queen's Hospital. All the mothers recovered. The children were all born alive, with one exception. In this case the patient had been in labour many hours, and forceps had been tried unsuccessfully. The child was known to be dead, as the cord was prolapsed and pulseless, and the reason that Caesarean section was done rather than craniotomy was that the head was high above the pelvic brim and the uterus in a state of violent tetanic contraction, which appeared to presage rupture; indeed, on examining the uterus after removal of the child an extensive effusion of blood under the peritoneum on its right lateral aspect seemed to show that rupture was already taking place, and hysterectomy was performed.

Of the children born alive, two died in hospital, one on the day of its birth, and the other, which was probably premature, on the twenty-third day from diarrhoea and vomiting. This case will be referred to later.

Of the women operated on, five were in labour at the time of operation, and of these, in two cases the membranes were ruptured; the other five were not in labour. In four of the five cases in labour the operation was performed between 1 a.m. and 3 a.m.

I do not in this paper propose to discuss the indications for Caesarean section or the alternative procedures which may be adopted, but rather to consider the method of its performance.

The first question is as to the time of operating; it was formerly taught that it was better to wait until labour had begun to ensure that the cervix would be open for drainage, but experience of operations performed before the onset of labour shows that this advantage is rather theoretical than practical, and the cervix can readily be dilated, if this is thought necessary, by passing the finger or a Hegar's

No.	Date.	Age of Patient.	No. of Previous Labours.	Indications for Operation.	Condition of Patient at Time of Operation.	Operative Technique.	Result.		Remarks.
							Mother.	Child.	
1	July 11, 1901	23	Primip.	Contracted pelvis; rickety dwarf; C.V. 2½ in.	Full term, not in labour	C.S. followed by supra-vaginal hysterectomy	Good	Good	—
2	Aug. 21, 1903, 3 a.m.	32	2-para	Contracted pelvis	In labour 12 hours; membranes ruptured 7 hours; attempts at forceps delivery before admission	C.S. followed by supra-vaginal hysterectomy	Good	Still-born	Craniotomy on two former occasions.
3	Nov. 30, 1905	23	1-para	Labour obstructed by dermoid tumour	At term, labour commencing	Conservative C.S. removal of dermoid, not sterilized	Good	Born alive; died in hospital	Has had living child <i>per vias naturales</i> since operation.
4	Feb. 14, 1906	33	6-para	Contracted pelvis; C.V. 3½ in.	At full term, not in labour	Conservative C.S. sterilization by excising piece of each tube	Good	Good	Previous labours: Craniotomy twice; induction of labour in hospital (C.E.P.) four times; two living children.
5	Aug. 25, 1907	25	2-para	Contracted pelvis; C.V. 3½ in.	At full term, not in labour	Sterilization by supra-vaginal amputation of uterus	Good	Good	Previous labours: First, craniotomy; second, induction at 7 months, dead child.
6	Feb. 6, 1908	29	2-para	Contracted pelvis; C.V. 3½ in.	Full term, not in labour	Conservative C.S.; sterilization by excision of piece of each tube	Good	Good	Craniotomy on two previous occasions.
*7	Feb. 22, 1909, 1 a.m.	39	Primip.	Labour obstructed by fibroid tumour	In labour 24 hours; membranes ruptured 10 hours; os could not be reached	C.S. followed by supra-vaginal hysterectomy	Good	Good	Fibroid growing low down on posterior wall; could not be pushed up.
8	Aug. 22, 1909, 2.30 a.m.	29	1-para	Contracted pelvis; C.V. 2½ in.	In labour; os well dilated; membranes unruptured; head above brim	Conservative C.S.; sterilization by excising uterine end of each tube	Good	Good	Child weighed 8½ lb.; craniotomy on former occasion.
9	Nov. 29, 1909, 2 a.m.	28	1-para	Contracted pelvis	In labour 4 hours; membranes unruptured	Conservative C.S.; no sterilization	Good	Good	Craniotomy at first confinement.
10	July 23, 1910	35	Primip.	Contracted pelvis (rachitic); C.V. under 3 in.	Not in labour; supposed full term	Conservative C.S.; no sterilization	Good	Born alive	Child premature; died in hospital on 23rd day, from diarrhoea and vomiting. (See special note.)

* This case was published in the *Lancet*, June 5th, 1909.

dilator into it from the uterine cavity; in my opinion this is not required.

A great advantage of not waiting for labour to commence is that everything can be prepared as for any other abdominal section, and the operation done under most favourable circumstances as regards light and surroundings. There is only one disadvantage in operating at a fixed date, before labour has commenced, and that is that the patient may have made a misstatement as to the date of her last menstruation. If this is the case it is practically impossible to rectify the error in the calculation of the date of the expected confinement by palpating and measuring the gravid uterus, because in the rickety woman the uterus is kept to a higher level than normal by the inability of the head to lie in the pelvic brim.

The last case, No. 10 on the list, is an instance of the serious consequences which may follow a miscalculation. The child was evidently premature when born; it did well at first, but, though every care was taken of it, it developed diarrhoea and vomiting, and died on the twenty-third day. The mother, unfortunately, was unable to suckle. In all the other cases in which the operation was done on a fixed day the child was, to all appearance, at full term.

In my opinion rubber gloves should always be worn by the operator and his assistant and the nurse. The usual preparation of the abdomen having been carried out, the incision is made sufficiently long—about 7 in. will usually suffice; it may have the umbilicus above its centre, and should always be made so as to skirt well round the umbilicus and not to encroach on the tissues of the latter. The peritoneum should be divided to the full extent of the skin incision and its edges held here and there with catch forceps.

The uterus now comes into view, and it will often be found rotated, so as to bring the left appendages nearer to the middle line; it must be put straight before it is incised.

It has been advised by Müller and others that the uterus should be brought entirely outside the abdominal incision before it is opened, and in my first case I did this; but, on the whole, I do not think that its advantages compensate for the increased length of the incision required, and I did not do it again; in this connexion it may be pointed out that the uterine contents are sterile so long as the amniotic sac remains intact.

The next step is to open the uterus. I have always preferred the vertical median incision; for some time the transverse fundal incision of Fritsch came into favour, and seemed as though it would displace the vertical incision, but now most operators appear to be going back to the latter.*

The great danger of this part of the operation is the liability to excessive haemorrhage. Various ways of diminishing the bleeding have been suggested; thus some advise tying an elastic ligature round the lower part of the uterus; it has also been suggested that a flat Hodge's pessary should be pressed firmly on the uterine wall, and the incision made in the centre of the area thus made less vascular. The former device is dangerous, as the constriction of the uterus may paralyse it and prevent its satisfactory contraction after the child is delivered, and I should imagine that the latter manoeuvre would be of little use, though I have not tried it. There is bound to be bleeding until the uterus is emptied, and the only satisfactory way of dealing with it is to make the incision of the uterine wall and the extraction of the fetus as rapidly as possible.

The incision with the scalpel may be about 1½ in. long,

* Lately what has been called extra-peritoneal or supra-symphary Caesarean section has been strongly advocated by Sellheim and other German authorities. This resembles closely the laparo-elytomy of the textbooks of my student days, and is advised particularly for cases advanced in labour and those that have been subjected to prolonged obstetrical interference. In this operation the skin incision is different, being made parallel to Poupart's ligament, and the distended and thinned-out lower uterine zone is incised instead of the fundus. I have no personal experience of this operation.

and may be continued until the membranes are seen to protrude; the scalpel can then be laid aside, and the incision rapidly enlarged with scissors, or the whole incision may be completed by the scalpel; personally I prefer the former method. If the membranes are already ruptured, care must be taken that the fetus is not injured by the scalpel in making the uterine incision. In two cases I enlarged the incision by tearing with the fingers, and I found that the resulting wound presented no difficulties in suturing. When the incision is completed the membranes should be opened by scalpel or scissors and the fetus seized, preferably by the feet. If the placenta is encountered in the incision it should be rapidly separated by the fingers.

A most valuable manoeuvre at this stage is for the assistant to hook up each end of the incision by passing an index finger into it during the extraction of the child; this prevents the uterus falling back into the abdomen as soon as it is emptied, and enables it to be readily brought out through the abdominal incision.

It is well to arrange beforehand that some one shall take charge of the child, otherwise, in the excitement of the moment, it may not receive proper attention. As soon as the child is removed the cord should be clamped in two places with long-bladed pressure forceps, and divided between; this saves time, and the tying can afterwards be done by the person to whom the care of the child is entrusted.

The placenta and membranes should be carefully detached and peeled off the uterine wall, and while this is being done the uterus should be enveloped in sterilized hot cloths, and gently kneaded to ensure contraction. This is usually sufficient to arrest haemorrhage, but if it continues, the assistant should grasp the broad ligament on each side with the finger and thumb whilst the operator continues to knead the uterus. Although the haemorrhage during the uterine incision and the extraction of the child looks very alarming, good contraction usually ensues as soon as the uterus is completely emptied and kneaded by the hand, and I have had no really dangerous haemorrhages in any of my cases.

We have now to decide the question of sterilization; it is particularly in cases of contracted pelvis that this question arises, for in cases such as my third, in which the cause of obstruction can be effectually removed, sterilization is, of course, not required. Even in cases of contracted pelvis many authorities are now opposed to sterilization, and several cases have been published in which Caesarean section has been repeated two or more times on the same patient.

This is a question in which the wishes of the parents should be allowed to have weight, and the prospects of the offspring from the eugenic point of view should be taken into consideration; this last point of view seems to have been entirely overlooked in a case operated on by Sir William Sinclair, and published in the *Journal of Obstetrics and Gynaecology of the British Empire*, January, 1904; the patient, who was extremely deformed by rickets and hip-joint disease, was of a low order of intelligence and had spent nearly all her life in workhouse infirmaries. Caesarean section was performed three times, a living child resulting on each occasion.

In my own cases the following course was pursued as regards sterilization:

In two of the cases, Nos. 3 and 7, the operation was performed for other conditions than contracted pelvis—in No. 3 for labour obstructed by a dermoid cyst; in this case sterilization was not performed, and the patient has since been delivered successfully of a live child, *per vias naturales*. In No. 7 labour was obstructed by a fibroid; the tumour was situated low down on the posterior uterine wall, and had a wide attachment, and, as myomectomy seemed inadvisable, supravaginal hysterectomy was performed.

This leaves eight cases of contracted pelvis. In two, the first and fifth on the list, supravaginal hysterectomy was performed, purely to obtain sterilization; in No. 2 the same operation, partly because there was evidence of commencing rupture of the uterus. Sterilization by excising a piece of each tube was performed in three cases, Nos. 4, 6, and 8, and in the last two cases, Nos. 9 and 10, no sterilization was performed.

The following methods of obtaining sterilization have to be considered: Oophorectomy, hysterectomy, ligation of the Fallopian tube, excision of a piece of each Fallopian tube.

Oophorectomy is not a method to be recommended.

Hysterectomy is a method which has the approval of Mr. Bland-Sutton, but in the opinion of most operators it is too severe a proceeding when sterilization alone is aimed at. Tying the tubes has been proved to be quite ineffectual. Excision of a portion of each tube appears to be, on the whole, the method which is to be preferred and most in favour. I have met with a case in which pregnancy occurred in a patient who had undergone Caesarean section, with excision of a portion of each tube, in Queen Charlotte's Hospital eight years previously; and other cases have been recorded, though the instances must be very rare. Sterilization is made more certain if the uterine end of the tube is excised and the incision in the uterine wall closed by sutures.

Hysterectomy is indicated in cases in which there is reason to think that the uterus is already infected, or in which there is rupture of the uterus. If the operation is performed, the supravaginal amputation with intraperitoneal treatment of the stump should be considered the operation of selection.

For suturing the uterine wall I used silk in all my cases, except the last, in which I used chromic gut for the deeper sutures. I have not met with any ill result from the use of silk, and I prefer it to any other material. I have in every case sutured in two layers, the deeper one including the peritoneum and muscular wall, but not penetrating the mucous membrane, and the superficial layer taking peritoneum only and being applied in Lembert's fashion.

Drainage was not used in any of the cases. The abdominal wall was closed in layers in every case. The abdominal wound healed by first intention in all except one; the case which suppurated was No. 2, the case which had been longest in labour, and the only one in which prolonged attempts at forceps delivery had been made.

The danger of Caesarean section increases enormously with the length of time the patient has been in labour and the amount of manipulation she has undergone, and when performed on a patient who has been infected by septic hands or instruments, the death-rate is high, but in uninfected cases the operation gives most satisfactory results.

ON THE TREATMENT OF THE EXCESSIVE VOMITING OF PREGNANCY.

BY

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DURING my term of residence as senior house-surgeon in the Glasgow Maternity and Women's Hospital seventeen cases of the excessive vomiting of pregnancy or hyperemesis gravidarum were sent in for treatment, and in each case the diagnosis of the family doctor was confirmed by observations at the hospital.

All the patients before admission had for several weeks been treated with the usual "stomach drugs," and in two cases rectal feeding had been tried for some days without any improvement. One case was admitted very ill and died. On admission she could retain nutriment neither by the mouth nor the rectum. She was in that hopeless condition described by Dubois, "characterized by increased prostration, constant headache, impairment of vision, tendency to somnolence, and derangement of the intellectual faculties. To operate in these circumstances would only bring obloquy on our art and perhaps hasten the patient's end."

On referring to textbooks regarding the treatment of this distressing complication of pregnancy, one is struck by the number and variety of drugs that are all strongly recommended. I doubted the efficacy of this drugging, and it seemed to me that other treatment should be adopted.

On admission the patient's history was carefully gone into. A thorough examination of all the symptoms was made, particular attention being paid to the condition of the alimentary canal, vagina, uterus, and appendages.

In view of the recent writings on appendix-dyspepsia, this point was investigated, but the result was negative in all. Bad teeth and chronic constipation were found associated in every case.

The patient was strictly confined to bed, and was assured