An Douglas's pouch and extending across the pelvis, but more to the left than the right, was a doughy swelling, the abdominal limits of which have been described. A median incision was made between the umbilicus and pubes. On opening the peritoneum a bloody fluid escaped. Occupying the left side of the pelvis and lower abdomen was a soft swelling shut off by adherent intestines and blood clot. On pushing the fingers into this swelling, there was a gush of liquid blood and blood clot. A fetus and placenta were rapidly brought to the surface from the centre of this blood-containing cavity, together with a dilated and ruptured left Fallopian tube, which had formed the sac of the products of conception. Large Spencer Wells forceps were placed on the left uterine appendages to control the haemorrhage, and the pelvis thoroughly cleared of blood clot by pouring in normal saline solution. The left broad ligament was then tied off, and the distal portion, with the fetus, placenta, and ruptured tube, cut away. After a final washing of the pelvis with saline solution, the abdomen was closed without drainage.

It is not always necessary, as in this case, to sacrifice the tube. Provided the tube is patent into the uterus, the rent may be sewn up, if it is not irreparably damaged. It is exceedingly difficult to get rid of the blood clot in these cases, and nothing is so expeditious and efficacious for this purpose as the pouring in of saline solution, as was done in the above case.

General Remarks and After-treatment.

In the performance of abdominal sections you may have noticed that I do not allow any sponge or swab to be passed directly from an antiseptic solution into the abdomen. Antiseptic solutions are irritating, and by damaging the peritoneal epithelium they hinder the absorptive power upon which we depend for the removal of the exudation which necessarily follows upon operation. On the other hand, I consider it safer not to dispense with antiseptics altogether, and therefore it is my custom to pass all sponges and swabs through a solution of 1 in 5,000 of biniodide of mercury, and then to have them washed in a normal saline solution before being used in the wound.

A word may be said in conclusion as to the after-treatment of these cases. If there is pain, which usually is not great, hypodermic injections of morphine may be given for the first twenty-four hours. After that no morphine is allowed. Unless the case is going wrong, pain at this period is nearly always due to flatulence, and the best remedy for this is a turpentine enema. The relief from pain and distension is so marked after the administration of a turpentine enema that it may well be regarded as the "sheet-anchor" of the after-treatment of abdominal operations. It may be repeated night and morning if necessary. In any case, it is desirable to give an enema on the second morning and a purgative by the mouth on the third day after operation if the bowels have not previously acted.

Should there be any signs of the onset of peritonitis, a dose of calomel may be given, followed by the administration of drachm doses of sulphate of soda every two hours as long as may be necessary to keep the bowels acting about twice a day.

Hot water may be given by the mouth whether there is vomiting or not. It relieves the thirst which nearly always occurs after abdominal section and helps to stop vomiting better than any other remedy. It should be given very hot, and in tablespoonful doses, three or four times an hour, if necessary. In cases of extreme thirst half a pint of warm water may be given once or twice a day by the rectum, and retained.

If there is vomiting nothing but hot water should be allowed by the mouth, but in prolonged cases this may sometimes be advantageously supplemented by small quantities of dry champagne. Under these circumstances the strength should be supported by the administration of nutrient enemata consisting of half an ounce of brandy, a teaspoonful of some beef essence, and made up to four ounces with peptonized milk. These should be given every four hours, and before each enema is injected the rectal tube should be worn for a quarter of an hour to allow of the expulsion of flatus. One of the best signs of recovery from shock is the power of expelling flatus voluntarily, and where this has been gained, cases practically always do well.

If the anaesthetic vomiting passes off quickly, water gruel followed by Benger's food or peptonized cocoa may be given during the first twenty-four hours. No raw milk should be allowed; it forms a coagulated mass which upsets the majority of patients. On the second day tea, bread and butter, toast, custard pudding, junket, and grapes may be allowed, but the quantities should be limited. On the third day a little fish may be given, and thereafter the diet may be gradually improved in quantity and quality. The patient's

feelings serve as an excellent guide to the amount and quality of the food taken, and in the early days it is unwise to force food upon an unwilling patient.

REMARKS ON FIVE SUCCESSFUL HYSTERECTOMIES FOR FIBROID DISEASE IN ONE FAMILY.

By J. MACPHERSON LAWRIE, M.D.,

Senior Physician, Princess Christian Hospital, Weymouth.

I PURPOSE calling attention in this paper to a series of cases characterized, I venture to think, by facts of sufficient interest to warrant them being placed on record. Although the success attending surgical intervention in these cases may afford legitimate ground for gratification, let me say that it is not upon their surgical aspect that I wish to dwell.

I have here drawn up in tabular form a list of nine sisters and their respective diseases, who in their organic morbid propensities betray a similarity that is really remarkable, if not unique.

Name.	Age.	M. or S.	Children.	Disease.	
J. S.	52	M.	8	Cataracts	
E. T.	50	M.	3	Cataracts	
E. D.	47	S.		Cataracts: fibroid tumour	Hysterectomy (in London).
A. D.	45	S.		Fibroid tumour	Hysterectomy.*
S. D.	43	S.			
R. C.	41	M.	4	Cataracts: fibroid tumour	Hysterectomy.*
B. D.	39	M.	0	Cataracts: fibroid tumour	Hysterectomy.*
M. C.	37	M.	2	Cataracts: fibroid tumour	Hysterectomy.*
A. B.	35	M.	0	Fibroid tumour	Hysterectomy.*

* Author's cases.

For a family of nine sisters to furnish five examples of fibroid disease and five of cataract is a morbid consensus sufficiently suggestive to invite further investigation. Referring to my brief notes of these cases:

CASE I.

Mrs. D., aged 35, consulted me on September 12th, 1899, for a gradually increasing abdominal swelling. Periods regular; no children. On examination I found a large, more or less globular swelling reaching to the level of the umbilicus. Sound passed 5½ in. She was advised to delay any operative measures.

On January 7th, 1902, the patient returned; she was four months pregnant, and suffering great discomfort. Subsequently she was seriously ill with a miscarriage, and was strongly advised to submit to operation. On June 8th, 1902, subperitoneal hysterectomy was performed. Uninterrupted recovery.

CASE II.

Mrs. C., aged 37, consulted me on February 11th, 1902, complaining of her periods being very excessive and lasting too long (seven days), and that she passed large clots; also of "bearing down." She had had two children, the youngest 7 years old. Examination revealed a large fibroid tumour: sound passed 5 in. On September 14th, 1902, the tumour was removed by subperitoneal hysterectomy. Uninterrupted recovery.

CASE III.

Mrs. B., aged 34, consulted me on October 24th, 1902, for a very large abdominal swelling; much haemorrhage and pressure symptoms—pain, backache, "bearing-down," bladder troubles, etc. She was weak and anaemic. No children. On examination, a large tumour was found occupying the whole of the abdominal cavity. Its uppermost limit was the costal margin. Operation was advised. On April 14th, 1903, subperitoneal hysterectomy was performed. Extensive adhesions made the operation difficult and prolonged; it occupied 2½ hours. Patient collapsed at end of operation; elevation of bed, strychnine hypodermically, rectal injections of brandy, and transfusion were employed. The patient did well, and left the hospital in a month.

CASE IV.

Miss D., aged 44, consulted me on February 27th, 1903, for an abdominal swelling and "floodings." Pressure symptoms, irritability of bladder, "bearing down," etc. Her symptoms dated back eight or nine years. On examination, a large irregular tumour was found, reaching to the costal margin. On the right side there was extreme tenderness. The sound passed nearly to the hilt. On June 19th, 1903, I found the tumour had been getting steadily larger. Metrorrhagia and pain very severe. The patient had great trouble in passing water, and was extremely anaemic. On June 23rd, 1903, she underwent operation. On opening the abdomen, a large fibroid tumour was exposed, occupying the greater portion of the abdomen, and complicated by an ovarian tumour on the left side. The fibroid tumour was removed by subperi-

toneal hysterectomy, and the ovarian tumour in the usual way. Ten days after operation a rise of temperature was followed by a discharge of pus per vaginam; the temperature then dropped, and the patient made an excellent recovery.

CASE V.

Miss A. D., a fifth sister, was successfully operated upon for uterine fibroids at St. Thomas's Hospital, London, by a well-known surgeon.

Returning to my list of nine sisters and their maladies, and looking at this family group of pathological portraits, the question arises, What is the explanation of the peculiar predominance of the two common features—uterine fibroids and cataract? The pathology of fibromyomata of the uterus, as well as of tumours in general, is a subject about which little is known. With regard to cataract, we know that impairment of nutrition of the lens increases with advancing age, and that these nutritive defects are apt to manifest themselves earlier in some families than in others. In other words, there is an inherited predisposition to that failure of repair which leads to the formation of opacities in the lens, that is, idiopathic or so-called senile cataract, this form of cataract, however, not being necessarily an expression of senility. Is hereditary influence a factor in the causation of uterine fibroids? Are the two apparently dissimilar diseases in this family the co-effect of one cause? Are they the expression of two well-defined and independent morbid tendencies manifesting themselves in the members of the same family? Is the association a purely accidental one?

Is there any relation, even a remote one, between the uterus and the lens of the eye that might have any bearing on the pathological changes in these organs? The only connexion I know of is a developmental or embryonic one; the capsule of the lens (not the body) is developed from the same layers of the blastoderm as the uterus. The lens is mainly the offspring of mesoblastic elements, and is therefore in direct histogenic relation with muscular, fibrous, vascular tissues, etc. I just mention this point as one of interest, although hardly, I think, of such practical importance.

I am inclined to think that the frequent occurrence of cataract and fibroids in this family is not due to any association other than an accidental one. I am not acquainted, at any rate, with any clinical records drawing attention to the fact that these two diseases are commonly met with in the same person. In the consideration of pathological problems of this kind, I think, as a rule, we are too apt to spring to hasty conclusions, and to attach special significance to what on mature reflection would prove to be merely chance associations. My series of cases furnishes *prima-facie* evidence which justifies the suspicion that hereditary influence may be a causative factor in the pathogenesis of uterine fibroid tumours. With the object of strengthening or dispelling this suspicion, the literature of the subject has been looked into for clinical records bearing upon this question. The theory of "heredity" does not receive much support from the majority of authorities and writers on the subject. Moreover, considering the extent of the researches into the records of fibroid disease of the uterus, the evidence in favour of hereditary influence (if evidence there be) is by no means of an overwhelming or convincing character.

Dr. F. de Ranse,¹ dealing with the subject of heredity in the etiology of uterine fibroids, mentions two sisters (one married, with two children) who both had fibroids. Although the local disease in the married sister called for operation, her general condition was too bad to risk it. Eighteen years later, after the menopause, her uterine tumour underwent slow shrinkage and atrophy, as was also the case with her elder sister. Her daughter, aged 37, single, had a fibroid on the right side of the uterus, of three or four years' duration. This author remarks that most writers ignore "heredity" as a factor in the causation of these uterine tumours.

Dr. C. H. Bixby,² recording a case of uterine fibroid treated by electrolysis, states that a sister of his patient died of an operation for this disease, and her mother of cancer of the breast. Otto Engström³ has observed 530 cases of uterine fibroids, and among them were thirteen families in which two or three sisters were the subjects of this disease. He thinks this coincidence is not an accidental one.

Dr. Kidd⁴ relates an example of fibroid tumours in two sisters; he operated on both of them several times. Dr. F. W. Haultain⁵ in his article on Benign Growths of the Uterus, in Allbutt and Playfair's *System of Gynaecology*, says, "The uterus is undoubtedly the most common seat of new growths in the human body." This writer quotes the statistics compiled from the Vienna *Hospital Reports* by von Curlt, who found that in 15,880 cases of tumours females exceeded males

in the proportion of 7 to 3; of this large majority in the former, uterine growths accounted for 25 per cent. He also refers to the variety of its tissues, its periodic engorgements, and the enormous hypertrophy during pregnancy. Easy circumstances seem especially to be associated with the development and growth of uterine fibromyomata, in contradistinction to the preponderance of uterine cancer in the poor and badly nourished. Among the cases recorded by T. S. Keith⁶ Cases 69 and 99 each had a sister affected with uterine fibroids.

Engström⁷ again calls attention to the fact that heredity seems to play some part in the etiology of fibrous growths of the uterus, as shown by an analysis of the histories of his cases, and as had been previously pointed out by Winckel, Carl Braun, and Gusserow, a fact which seemed to prove Cohnheim's theory of their embryonal development. Dr. H. D. Beyea⁸ has recorded the occurrence of fibroid tumours in four sisters, mother, grandmother, and aunt.

In illustrating the different ways in which uterine myoma kills, Lawson Tait⁹ speaks of two sisters (38 and 36) who succumbed to this disease, the elder by exhaustive bleedings, the other by the rapid growth of a malignant tumour.

Alban Doran¹⁰ has removed the uterus of two sisters for fibroid disease; in a third sister the tumour, originally the largest, remained quite stationary for four years. The same writer,¹¹ in his Harveian Lectures on "Fibroids of the Uterus and its Ligaments," when dealing with the family history of fibroids, remarks: "According to my own experience, a family history of fibroids is more interesting than important. I find, like others, that a strong history is to be detected on inquiry in some families. In one remarkable instance the mother underwent hysterectomy for a fibroid, while three daughters are subject to fibroid disease. In two it has remained stationary for several years, while in the third the tumour suddenly increased, and I recently removed it. The mother's sister died of uterine cancer, and so did a fourth daughter, whilst there remains a fifth from whom a fibroid polypus was removed; there is at present a small growth in the cervix."

J. Knowsley Thornton¹² records a case of removal of the uterus for fibromyoma; her sister was known to have a similar tumour. A patient of Dr. Shaw Mackenzie,¹³ with a fibroid tumour of the uterus, had a mother and two sisters who were stated to have suffered from fibroids.

Dr. A. E. Giles has kindly given me permission to make use of the following cases, which will afterwards be published, and which relate to three sisters.

1. E. C., aged 45, single, operated on at Chelsea Hospital for Women on September 26th, 1898. Increasing disability and increasing size of the tumour called for radical treatment. She had been under observation for three years.

2. L. C., aged 40, single, operated upon on August 6th, 1901, at the Tottenham Hospital. Leading symptoms, menorrhagia and retention of urine.

3. E. C., aged 45, single, operated upon on November 28th, 1901, at the Tottenham Hospital. Pain and menorrhagia; also ovarian (right) cyst.

All three fibroid tumours were of the hard solitary type; the patients made excellent recoveries. No other sisters in the family; no history of any other growths.

In adding my series of cases to the published records just briefly surveyed, I am inclined to regard it as furnishing the most remarkable family history of uterine fibromyomata hitherto noted. Before we can gauge the importance of this family history, however, we must ask ourselves a very important question, What is the frequency of this disease in women? This is differently estimated by different authorities. According to Bayle's figures, 20 per cent. of all women over 35 are the subjects of fibroid disease; whilst Klob¹⁴ places the percentage of women of 50 so affected as high as 40 per cent.

Now if Klob's computation (that four women in every ten have fibroids) is more or less roughly accurate, the occurrence of five in nine (allowing for the law of averages) ceases to cause us any astonishment. The reply to the question whether 40 per cent. is not rather too high an estimate must be left to the decision of pathologists constantly engaged in *post-mortem* work.

A very large percentage of uterine fibromyomata unquestionably cause no symptoms, and consequently are unsuspected during life. In my cases it is not merely the frequency of this uterine affection that is worthy of note but the character of the tumour, which caused symptoms such as rendered operation imperative in each of my patients. In publishing these five hysterectomies for fibroid disease in

five sisters I am, I believe, establishing a record from an operative point of view.

I am much indebted to Dr. E. B. Hulbert for helping me with the literature of this subject.

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OVARO-HYSTERECTOMY (PORRO).

NOTES ON TWELVE CASES PERFORMED DURING THE LAST SEVEN YEARS IN THE ISHWARI MEMORIAL HOSPITAL, BENARES.

By LIEUTENANT-COLONEL T. H. SWEENEY, I.M.S., F.R.C.S.I.,
Civil Surgeon.

"The east is east, and the west is west," and to those who have experience of both peoples this saying summarizes a vast amount of divergent habits, customs, thoughts and feelings, but in nothing is this divergency more marked than in connexion with marriage and childbirth. To the general practitioner at home it would be impossible to realise the very large proportion of women who out here lose their lives in childbirth, largely from the liberal way in which oriental customs provide facility for sepsis, and in a lesser degree from the various contractions of the pelvic bones which make natural labour impossible. My notes, however, having reference solely to pelvic contraction, I will say nothing about the weird and awful customs practised by the native midwife or dhai when attending even an ordinary case of midwifery.

I think I considerably underestimate when I assert that 1 in every 1,000 pregnant women in India dies in consequence of contracted pelvis. This contraction in more than half the cases is the result of osteomalacia, and in the remainder is caused by rachitis.

In order to realize how this large percentage of distorted pelvis comes about, one must understand the fundamental principles relating to marriage in India (as regards Hindus), that, first, every girl must be married before she menstruates or else disgrace attaches to her family, and various religious pains and penalties are believed to ensue, not only to her parents, but even to her ancestors for several generations back; secondly, such girl must be sent to begin sexual relations with her husband as soon as menstruation first takes place.

Among Mohammedans, if a girl be not married about her 15th or 16th year, her parents are believed by their fellow Mohammedans to be guilty of a serious social crime.

With such ideas the alternative is, where weakly or deformed girls exist in a family, to assign a more than usually large marriage portion to such, and a husband invariably comes forward. To the parents the girl's death in childbirth weighs not a shadow compared with the disgrace attendant on celibate life. To the husband the wife's death can be easily corrected by another marriage; in neither case does affection weigh much. Hence we have girls becoming mothers before they are themselves mature, and the offspring must necessarily be more liable to rickets than those of parents who are fully developed.

The injury to the pelvis in the young mother from frequent confinements, coupled with the weakening influences of rapidly-recurring pregnancies and of prolonged lactation, together with, in many cases, poor and deficient food and bad sanitary surroundings, generate the changes producing osteomalacia, while the offspring growing up rachitic will, if a female, provide in herself another subject of deformed pelvis.

In the twelve cases noted below, the deformity was so extreme that no question as to the operation necessary occurred. It was at once apparent that nothing but Caesarean section could save both mother and child. I selected ovaro-hyster-

ectomy rather than simple Caesarean section with removal of portion of the Fallopian tubes for the following reasons, namely, first, as most of the cases were caused by osteomalacia, the supposed curative effect on the disease of the removal of both uterus and ovaries was taken into consideration; secondly, and chiefly, as all the cases had been a long time in labour before arrival at the hospital, and as such cases had been considerably handled by the native dhais, the risk of sepsis was very great. The native midwife or dhai, always a woman of the lowest caste and filthiest habits, is accustomed in cases of prolonged labour to place filthy rags steeped in irritant oils, etc., into the vagina, and also dilates and handles the mouth of the womb with considerable violence, so that I considered it safer to remove the uterus and keep the stump outside the abdominal cavity.

The operations were performed as follows under strict aseptic precautions: A 6-in. incision was made in the abdominal walls and peritoneum, which incision was subsequently prolonged up and down sufficiently to allow the uterus, when tilted on its side, to be lifted out. The incision was then protected by sterilized muslin sponges, which were also packed round the neck of the uterus; a piece of thick drainage tubing was also placed round the neck of the uterus to be tightened in case of much haemorrhage; but it is astonishing how little bleeding occurs even when the uterine incision goes right through the placenta. A free longitudinal incision was then made through the uterine wall and the child extracted. After removing the placenta and membranes, two knitting needles were passed at right angles through the neck of the uterus, care being taken to leave the stump sufficiently long, as it retracts a good deal during the process of involution. In the first ten cases I then merely tied a strong whipcord ligature below the needles; but after my experience with Case x I have since used the *serrenocul*; the uterus was then cut off above the needles. The peritoneum covering the neck of the uterus just below the ligature was carefully stitched to the parietal layer by four stitches which included the abdominal muscles; the remaining portion of the incision being closed in the usual way by silk-worm-gut sutures. The stump generally dropped off on the fourteenth or fifteenth day.

The result of the 12 operations was that 9 mothers and 11 children were saved, which, considering the condition of most of them on arrival at the hospital, may be deemed satisfactory. In the tenth case only do I consider that greater care could have saved the mother; in the other fatal cases—namely, I and iv—no blame can be attached to the operation. I have frequently seen many of the women since and they assert that they enjoy excellent health in every way. An interesting point is that many were able to suckle their infants for considerable periods, in some cases even up to twelve months. To economize space I merely give very brief notes on each case:

CASE I.

M. S., aged 30 years.

History.—A blind, rachitic dwarf; first pregnancy: extreme distortion. Operated on May 6th, 1903, and a living child removed. Mother died suddenly next day when talking to the lady doctor in charge, but whether from syncope or embolism I cannot say, as no examination was allowed after death.

CASE II.

M. B., aged 22 years.

History.—First child removed by embryotomy nine years ago when 13 years of age. No other pregnancy until now. Pelvic distortion so extreme that even embryotomy would not now be sufficient. Operated on August 30th, 1896, and a living child removed. Discharged cured on October 4th.

CASE III.

M. A., aged 30 years.

History.—Two children born naturally ten and eight years ago: was treated for a considerable time in a mission hospital for lameness as she called it—probably osteomalacia. Operated on February 28th, 1898, and a living child removed. Discharged cured on March 30th.

CASE IV.

M. L., aged 24 years.

History.—First and second children delivered by craniotomy, and was advised to have Porro done if again pregnant. Came to hospital when labour had commenced, and in addition to extreme pelvic distortion a thick cicatricial band had formed right across the vagina almost completely closing the passage. While preparations for the operation were being made violent labour pains set in, and the uterus ruptured. The operation was at once commenced, and a living child removed, but owing to her collapsed state the operation could not be satisfactorily completed. After removal of the uterus and ovaries all meconium, amniotic fluid, etc., was washed out of the abdominal cavity, and the rent, which extended right down into the vagina, was sewn up as far as possible, but could not be thoroughly completed owing to her