[Reprints] / by H. Macnaughton-Jones.

Alban Doran
with the author's kind regards.

8.

REPRINTS.

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Notes from the Clinics of Heidelberg and Freiburg, with a special reference to Spinal Anæsthesia.

Primary Carcinoma of the Vagina.

Multiple Fibro-Myomata of the Uterus curiously similar in character in mother and daughter.

Disintegration of a Uterine Fibro-Myoma due to Hæmorrhage and Resulting Necrobiosis.

BY

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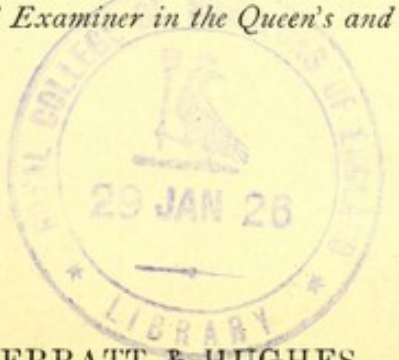

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NOTE.

On issuing these reprints of a few recent papers, I desire to record the deep debt of obligation which I have been under for many years to my friend, Dr. J. J. Macan, the able Editor of the *British Gynæcological Journal*, for the assistance he has frequently given me through his extensive knowledge of foreign literature. And not for this alone, but for the material help his unrivalled summaries in the *British Gynæcological Journal* have afforded me in compiling the various later editions of my work on "Diseases of Women."

I take this opportunity of acknowledging my indebtedness, in view of the fact that in consequence of the amalgamation of the British Gynæcological Society with the Obstetrical Society of London, as a section of the new Royal Society of Medicine, the *British Gynæcological Journal* will cease to exist.

H. MACNAUGHTON-JONES.

131, Harley Street,

April, 1907.

Notes from the Clinics of Heidelberg and Freiburg, with a special reference to Spinal Anæsthesia.

(*Read at the British Gynæcological Society, December 13th, 1906).

Bene diagnoscit, bene curat.† This is the aphorisic motto that all who enter Professor Krönig's operating theatre may read. Surely none could be more aptly chosen, and no words could speak more eloquently to gynæcologists. Great technical skill and manipulative dexterity are the handmaids of a particular technique, but justification for the risk involved in the carrying out of any predetermined method, and the responsibility incurred in advising operative interference, must in both cases depend on accurate diagnosis—*early* diagnosis, for certainly the greatest blot on the page of progress in gynæcological practice is the casual, procrastinating habit of us doctors. Are we, with all our talk, writings, and discussions, pathological displays and operative triumphs, getting nearer the supreme aim of every surgeon—early recognition of the abnormal, early detection of signs that throw light on symptoms, early acceptance of the grave responsibility cast upon us by that first appeal made to us for relief of symptoms, it matters not how slight those symptoms may be? It were well that those terms (too often the cloak for carelessness, indifference, or ignorance!)—"neurosis," "neurotic," "neurasthenia," "hysterical," were dead phrases to most of us. Pain would not then be ignored, a discharge trifled with, a locomotor difficulty assigned to gout or rheumatism, a pregnancy confounded with a cystoma, or *vice versâ*, nor should we read of revelations following the discovery of a loose kidney, or of death in a few days from a fulminating appendicitis. We should not hear so often of "inoperable carcinoma," of ruptured pyosalpinx, of fatal collapse from ectopic gestation, of operative procedures lasting two or three hours and ending in early collapse or sepsis.

But assuredly the saddest of all the consequences of neglect of early diagnosis is that which follows in the wake of cancer and can-

* Reprinted from the *British Gynæcological Journal*, February, 1907, and *Medical Press Circular*, January 2nd and 10th, 1907.

† The mottos in "St. Ronan's" theatre are "Suaviter in modo, fortiter in re," and "Festina lente."

cerous infection. While we are still groping in the dark for a cure, waiting on pathological research, and following the *ignis fatuus* of some advertised therapeutical boon, we let slip the time for applying the only cure we as yet know of—early and free operation. If this society, now in its dying hours, sent out no other message, trumpet-tongued to the profession; left no other legacy as the outcome of its accumulated experiences than this: "Diagnose cancer early," it would have justified its existence, and the initiators of it, dead or living, would have earned eternal gratitude.

Medullary Anæsthesia.*—Before referring to the clinics of Heidelberg and Freiburg, I desire to touch on the question of spinal anæsthesia, inasmuch as it was in regard to what I saw of this new movement in operative gynæcology that I was most interested. There can be no doubt that the man deserving the greatest credit for the introduction of this method of securing narcosis is Bier, who, in 1899, first employed cocaine for this purpose, unaware and quite independent of Cornig's treatment of spinal affections with intradural injections of the same drug. Bier (like Simpson and Duncan in the case of chloroform) experimented on himself, and on his assistant Hildebrandt, and both experienced several of the unpleasant after-effects. Results were not encouraging, but Tuffier, in France, followed in 1900 with 250 operations, of which 142 were laparatomies. Of 1,708 cases reported by Hahn in 1901, 8 had died, and Morton, of San Francisco, reported 673 operations under cocaine. In 1904 Bier made the next great advance in the addition of the antidotal adrenalin, and in substituting stovain (first employed by Sonnenburg) for cocaine. Doenitz was associated with Bier in his work.

Since 1904 a host of workers have been giving their experiences. These have turned mainly on the relative value of the drugs employed—eucaine, tropacocaine, stovain and novocain, the last three being those commonly used— on the advantages and disadvantages of this form of anæsthesia as compared with general anæsthesia by chloroform; on the dangers associated with it, and how to avoid them; on the precautions to be taken and the best method of administering the anæsthetic; on the employment of it for operations above the level of the umbilicus; on its suitability in particular cases; on the disadvantages of retention of consciousness, and on the combination of scopolamin and morphia narcosis with the use of either stovain or novocain as introduced by Krönig. A few words on each of these questions may not be amiss.

First, as to the relative value of the drugs which are employed. Eucaine (Jedlicka and Mayer) has been abandoned (Engelmann). Tropacocaine is still employed by Doenitz for operations above the level of the umbilicus. He reports most favourably on it in combina-

* See page 6.

tion with scopolamin and morphia as accessory narcotics. The patient is not conscious, and the pelvis need not necessarily be elevated. Of the three, tropacocaine seems to Doederlein to be by far the best, as he thinks that after it the toxic effects are less serious.

Schrœter reported a failure of thirteen out of eighty-six administrations of stovain; one case was resuscitated from collapse by cardiac massage and artificial respiration, but in that there had been reinjection of the spinal fluid several times. He also uses novocain. Professor Leyer considers that medullary anæsthesia should not be used save where infiltration or perineural anæsthesia cannot be carried out, or where general narcosis is contraindicated. In two out of nine cases there was serious collapse from novocain.

Veit (Halle) prefers stovain, a smaller quantity being required to secure anæsthesia. Sonnenberg now uses novocain and suprarenin. In 603 cases (114 stovain and 135 stovain-adrenalin) there were 5 deaths. Neumann (Berlin) uses both stovain and novocain with suprarenin. Kœnig (Altona) prefers stovain-Billon to the stovain-Riedel, and to novocain.

It is right to say in regard to stovain, that Mr. Barker has been using it for medullary anæsthesia for some time past. He was the first in the United Kingdom to employ it, or to resort to medullary anæsthesia. I learn from him that he has used it in some 100 cases, and so far has been satisfied with the results.* For some time I have used novocain for infiltration anæsthesia; it answers perfectly. It is early yet, even with the experiences we have before us to pronounce definitely any opinion as to the relative advantage in various cases of general and spinal anæsthesia. This is the more true in the instance of those who, like myself, have not had a large personal experience of the medullary method.

Franz (Jena) uses novocain and suprarenin and morphine-scopolamin narcosis. He has had 180 operations without a death, or any threatening symptoms.

This is sufficient to show that there is not complete unanimity as to the best of these three drugs, and it would appear that there is not much to choose as between stovain and novocain, though preference seems now by some to be given to the latter.

As to the precautions to be taken in the administration, these are included in my references to the kliniks. Purity of drug is essential, and it is questionable if it should not be as fresh as it is possible to have it.

Dangers Associated with the Practice of Spinal Anæsthesia.—The principal of these are arrest of respiration from involvement of the medulla and the motor nerves; collapse immediately, during or after operation; spinal paralysis; and sepsis. All of these have been causes of death. Care in carrying out the strictest aseptic details,

* See *British Medical Journal*, March, 1907. In this paper Mr. Barker enters fully into this question of spinal anæsthesia and records his experiences with stovaine.

deliberation in selection of the spot for puncture, slowness of injection, not too rapid elevation of the pelvis, and the combination of the scopolamin and morphia narcoses, are most necessary.

There can be no question that the risk is greater when the punctures are made higher in the cord than the umbilical level. We have nothing, however, to say to this here.

What, then, are its advantages over that of general anæsthesia by chloroform or other means?

They may be briefly and categorically stated thus: By it chloroform may be avoided in patients in which general anæsthesia is contraindicated, in cardiac diseases and in arterio-sclerotic states; the possibility of deferred death from chloroform in prolonged administration is not to be feared; the action of the abdominal muscles in abdominal operations is not encountered, the frequent post-operative effects of chloroform and ether are absent.

What, now, are the disadvantages? Firstly,

The Perception of the Operation.—Surgeons are by no means unanimous as to the benefit or the contrary of retained consciousness during a long abdominal operation. Certain grave disadvantages will strike you at once. Personally, I do not believe that in private practice the majority of patients on whom cœliotomy has to be performed will elect to be operated on by this method. Those I have hitherto asked were most decidedly opposed to this idea of being conscious during operation.

The Chance of Vomiting.—This has often taken place during, and has continued after, operation with all the drugs used. It is not so common now, owing possibly to better administration, and in no single case did I see it occur at either clinic.

Movement of the Bowel.—This, in operations on the perineum, or plastic vaginal operations, makes the administration somewhat risky in such cases. I did not see it occur, though I witnessed several plastic operations.

Insufficient Narcosis.—This may be due to dispersion of the drug and dilution in the spinal canal, with failure in the anæsthesia. Strong traction of the pelvic viscera tends to reveal it.

Risk of Collapse.—This appears beyond doubt to be a risk that must be estimated. Possibly an injection of strychnine and atropine, given half an hour before the operation, may prevent it. The addition of the adrenalin solution has materially lessened it.

Respiratory Paralysis.—These cases have been very few comparatively. Too rapid injection and raising of the pelvis, or injury to the anterior roots, may predispose to it.

Injury to the Motor Nerves during Injection. This will be avoided by care in the puncturing.

Headache.—This follows in a certain number of cases under all the drugs, and with every precaution.

Sepsis and Impurity of Drugs.—These drawbacks have to be met by strictest asepsis, and the guarantee of the chemist. The danger is very remote.

Just a word on the *scopolamin-morphine and chloroform anæsthesia.* Scopolamin is, as you know, identical with hyoscine. In carrying out this method the scopolamin—$^1/_{64}$ to $^1/_{100}$ of a grain and $\frac{1}{4}$ of a grain of morphia—is injected subcutaneously the night before the operation, and repeated an hour before it takes place. Chloroform or ether is then given in the quantity required. Take the following case as an example. (See particulars of case of carcinoma of the vagina.)

A patient, aged 70, was carried into my study after a long railway journey, in a collapsed condition. In her state it was impossible to make an examination. I ascertained, however, that there was a fœtid growth protruding from the vagina, and I drew off five pints of urine from the bladder. The right leg was affected with neuritis, for which she had been in bed six weeks. By nutrient enemata and injections of strychnine, she was kept going for three days. On the night of the third day she had a scopolamin and morphia injection. On the following morning, two hours before the operation, she had another. One hour before the operation a strychnine and atropine injection was given (a plan I have always adopted in any serious abdominal case since reading the experiments of Professor Schaeffer and Dr. Scharlieb).* I removed the growth, which evidently sprang from the anterior vaginal wall in front of the trigone and then invaded the cellular tissue, spreading high up into the left fornix. Both sides were freely cauterised. It has proved to be a carcinoma.

Dr. Scharlieb, who gave the patient chloroform, informs me she was put under with rather less than half a drachm of a 10 per cent. alcohol and 90 per cent. chloroform mixture, and kept under with about 3 drachms of pure chloroform, with a Vernon-Harcourt regulator; mostly between 0·4 and 0·6 of chloroform. She did not suffer after the operation and passed a perfectly quiet day and night without any sickness.

Some Recent Literature.

Medizinische Klinik. Professor E. Brandenburg, Berlin, September 1906, No. 37. Reports from the Kliniks of Franz (Jena), Sonnenburg (Berlin), Lexer (Koenigsberg), Neumann (Berlin), v. Rosthorn (Heidelburg), Friedrich (Griefswald), Martin (Griefswald), Doederlein (Tuebingen).

Résumé of the entire subject of "Spinal Anæsthesia," by K. Baisch.

See also Summary, *British Gynæcological Journal*, vol. xvii., 26, 120; vol. xviii., 181; vol. xx., 73–74, 127; vol. xxi., 177, 51, and article in the *Edinburgh Medical Journal*, p. 439, 1906, by J. W. Struthers. In this article there is a further summary of the literature of this subject, p. 444. "Operative Gynakologie," Dr. Doederlein and von Dr. B. Krönig, Leipzig, 1907.

* I have now been using Michel's clamps, with the automatic fastener, for three years, and have had every satisfaction with them.

Heidelberg.

Anæsthesia.

Every operation I saw was performed under the influence of spinal anæsthesia. The lumbar area is prepared by thorough scrubbing, and then painted over with iodine. The puncture is made between the first and second lumbar vertebræ; the spinal fluid, when aspirated, is mixed with the novocain and reinjected. Two injections have been previously given of 0·0003 scopolamin and 0·007 (gramme) morphia. The dose of the novocain is 0·1 to 0·15 gramme. An anæsthetist always sits at the head of the patient to give chloroform to supplement the spinal anæsthesia if required. This is occasionally necessary in very long operations, the quantity given being always carefully ascertained. It is generally but a very small amount.

I saw anæsthesia maintained in this manner in two Freund's operations, in which careful search was made by Dr. Kermauner for any infected glands; in ventro-suspension; plastic operations on the vaginal and adnexal operations. The severest and longest operation was a Freund, in which large solid carcinomatous ovarian tumours, fixed by adhesions at either side of the pelvis, had to be removed with the uterus, and finally a solid metastasis, which grew from the wall of the bladder was ablated. See the microscopical sections—Plates I to X. (Vaginal drainage with iodoform gauze was used in the pan-hysterectomies.)

Freiburg.

Anæsthesia.

All the cases I saw operated upon in the Frauenklinik, either by Professor Krönig or Dr. Penkert, were treated by medullary anæsthesia. These included abdominal, vaginal, and perineal operations. For example, there was a complete procidentia uteri, with a laceration of the rectum and prolapse of the bowel, without exception the worst case of its kind I ever saw. Professor Krönig completed this operation without any sensitiveness on the part of the woman, in about half an hour. In this case the tissues were also subcutaneously injected with novocain. In no single instance did I see the least evidence of sensibility in such operations as hysterectomy, removal of the adnexa and appendix, and plastic operations on the tubes. The drugs used were scopolamin-morphine and stovain "Billon."

Case I.

The accompanying sections of Professor Schottländer were taken from the tumours removed from a patient I saw operated on by Dr. Kermauner under spinal anæsthesia and referred to in the text.

The carcinoma would appear to have arisen independently in either ovary; there were metastases into the uterus and the wall of the bladder.

The patient was aged 51.

Fig. 1. Primary adeno-carcinoma of the right ovary. × 20.

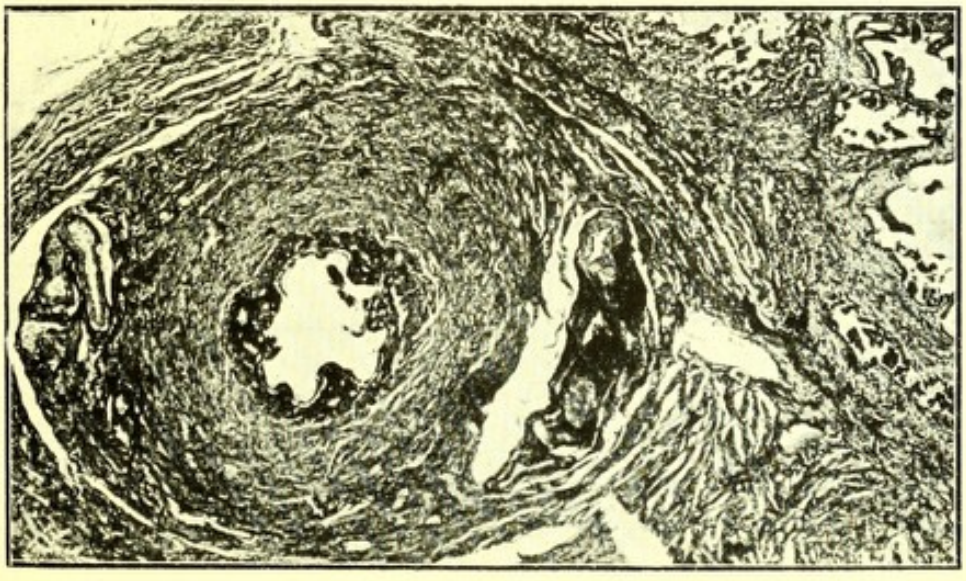

Fig. 2. Carcinomatous right Fallopian tube (isthmus). × 35.

Fig. 3. Section from carcinomatous left ovary. × 125

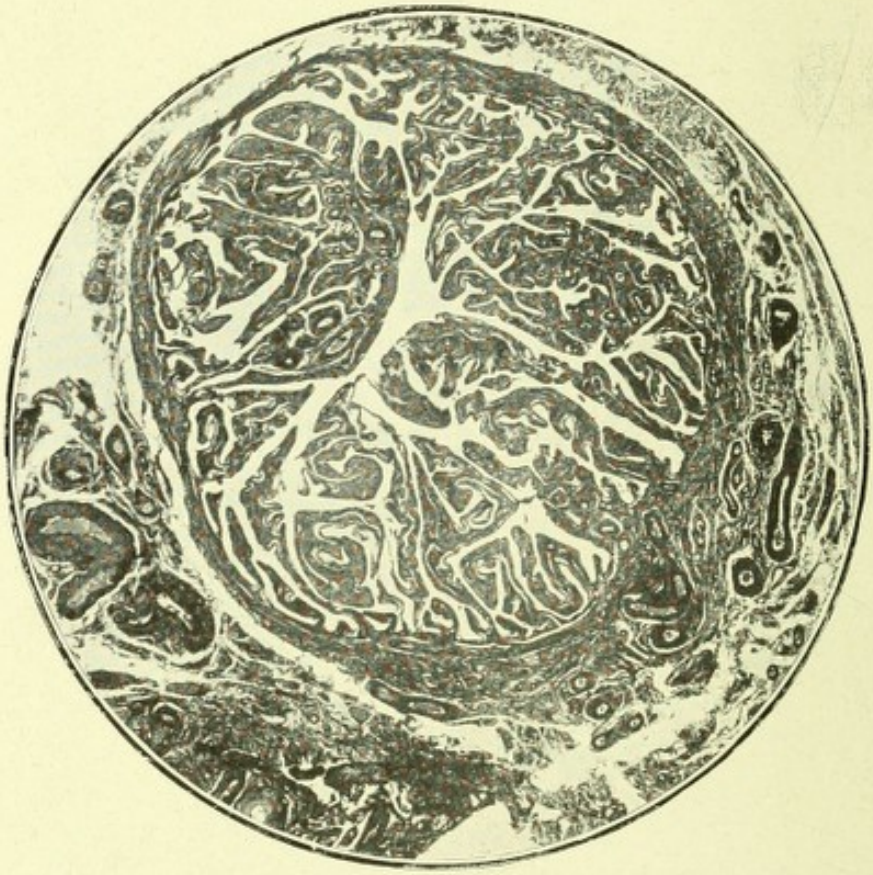

Fig. 4. Œdematous left Fallopian tube free from carcinoma. × 18.

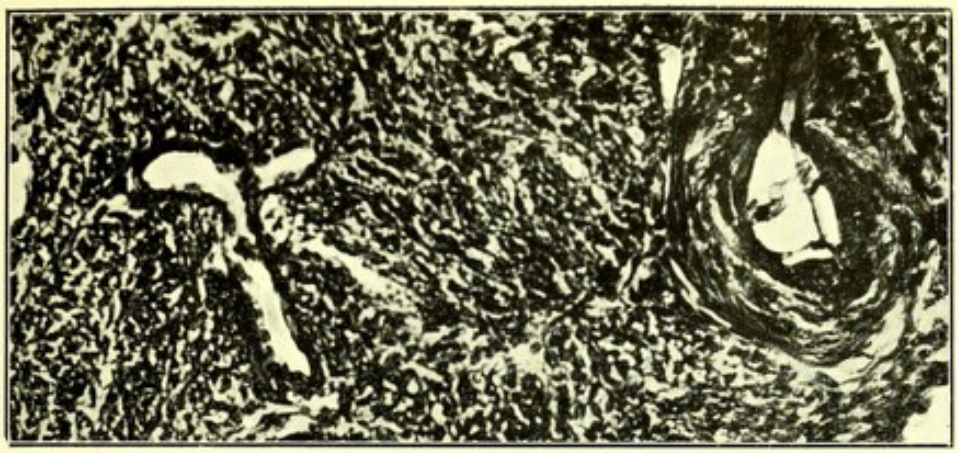

Fig. 5. Section from the fundus uteri showing carcinomatous metastases. × 250.

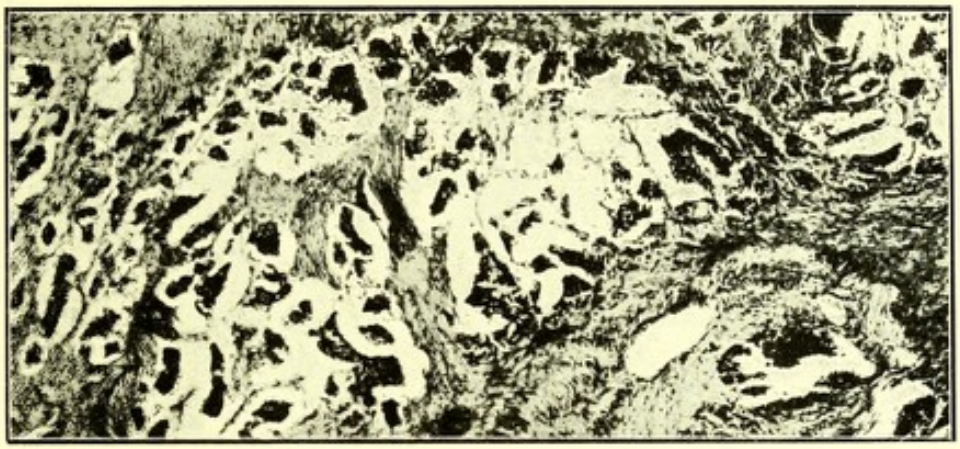

Fig. 6. Section of bladder showing carcinomatous metastases in the muscle layer. × 55.

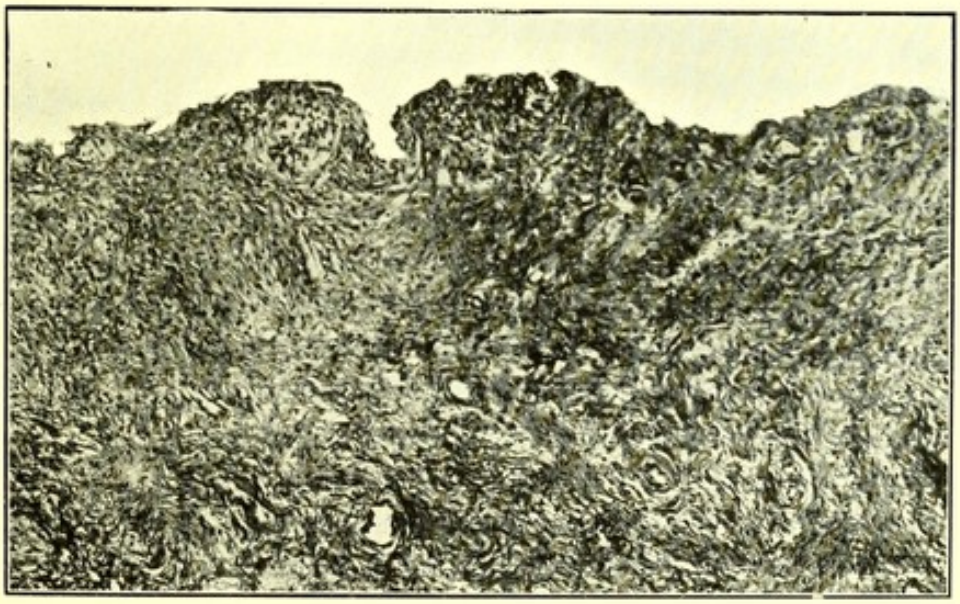

Fig. 7. Mucous layer of bladder free from carcinoma. × 80.

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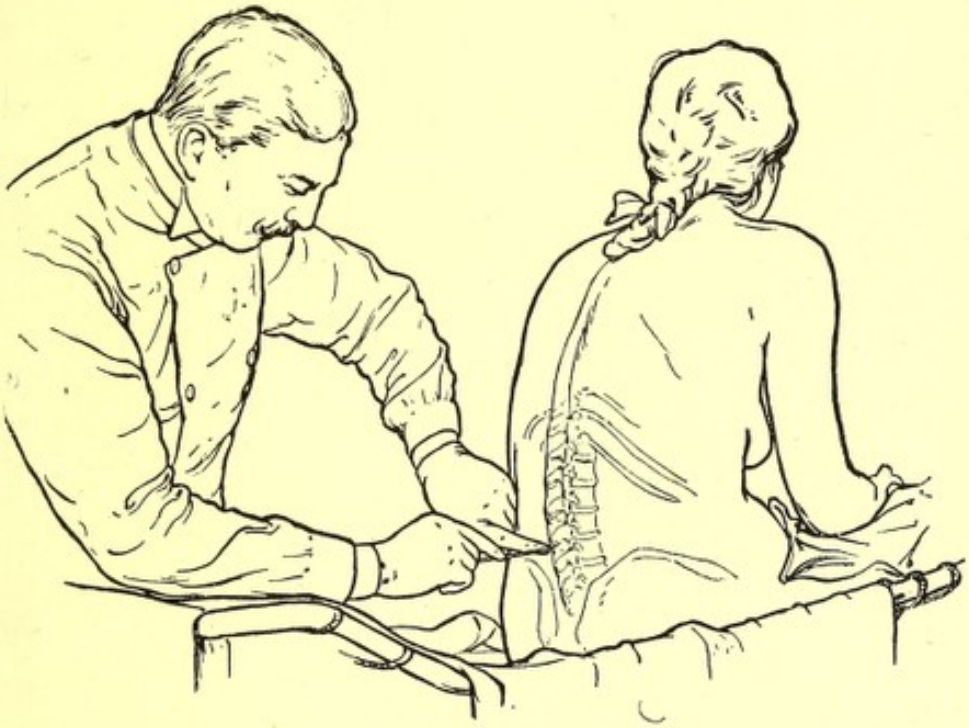
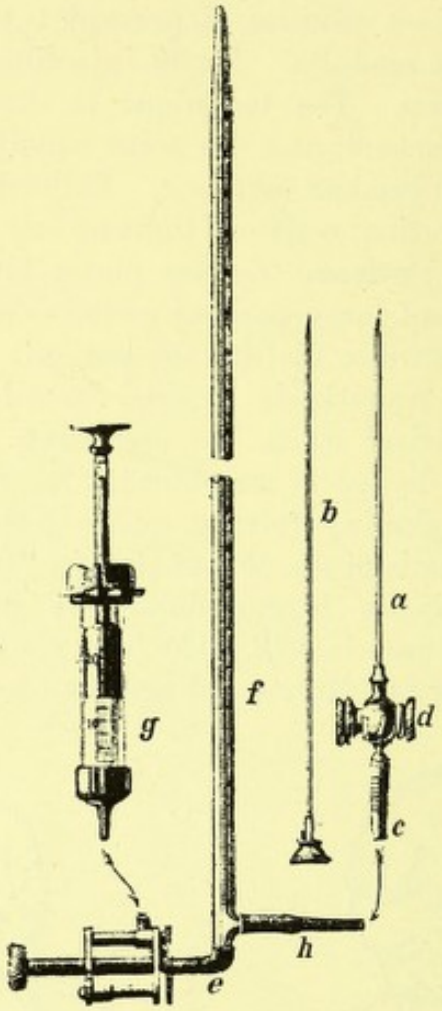
Two hours before operation the scopolamin 0·0003 with morphine 0·01, in aqueous solution, is given, and the same dose is repeated one hour before operating. Immediately before operation the stovain "Billon" is introduced into the spinal canal. From three to five minutes is taken for the injection, and after the introduction of the stovain the patient sits up for two minutes to prevent a too rapid distribution along the cord to the medulla. Rapid injection is injurious through the pressure it causes. The technique is the same as in making ordinary lumbar puncture, and the point usually selected is between the second and third lumbar vertebræ. Following the injection, and all through the operation, a strong light or any noise is avoided, and to accomplish this, Professor Krönig places large dark glasses over the patient's eyes, and large pads of gauze over the ears. Sharp or piercing noises are sure to disturb the patient.

This method of anæsthesia is used in all abdominal, vaginal, perineal, and obstetrical work, but according to the nature of the operation different dosage is employed. In vaginal, perineal and midwifery work, including forceps, version, etc., the usual dose of scopolamin-morphine is given, but of stovain "Billon" only ·009 grm., while in cœliotomies a larger dosage is practical, the stovain "Billon" being increased to 0·12. The only contraindication observed by Professor Krönig is extreme old age, and even then this form of



The skin having been sterilised is rendered insensible with ethyl chloride. The puncture is made directly in the middle line between the processes of the second and third lumbar vertebræ. If the bone is struck the needle should be withdrawn somewhat and pushed in again in an upward direction.

narcosis is not altogether contraindicated, but smaller doses are used. This method Professor Krönig regards as satisfactory for gynæcological purposes.



Apparatus used by Professor Krönig. (*a*) Needle; (*d*) tap which shuts off apparatus; (*f*) measuring tube which can be closed off at (*e*) by a screw clip. The cerebro-spinal fluid is admitted to (*f*), and if pulsation is seen the quantity of fluid which is to be replaced by the narcotic is measured off in the graduated tube. Now attach the syringe (*g*) to the draw off tube, and, watching the pulsation, inject, the 3 c.c. of the solution, which should take some 5 to 6 minutes. If there be no pulsation in the tube there is either some disease of the cord or the needle is not in the cysterna terminalis." ("Operative Gynakologie," Leipzig, 1907.)

Post-anæsthesia is unaccompanied by any disagreeable symptoms whatever—even headache is frequently absent. Several cases have been operated upon successfully with severe mitral and other valvular lesions.

Billon (Paris) uses smaller doses than Krönig, and with the idea of extending the area of anæsthesia places the patient immediately in the Trendelenburg position. The anæsthesia is complete for from one to one and a half or two hours; after that time sensation begins to reappear.

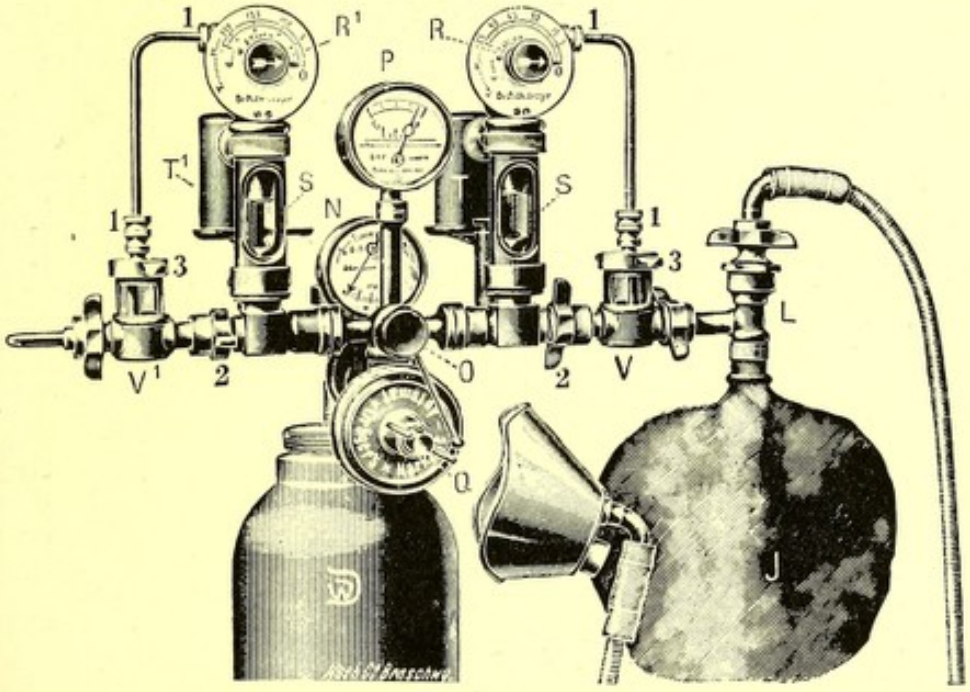
In the series of 380 gynæcological, and 130 obstetrical operations at the Clinic, as yet carried out under this form of anæsthesia, Professor Krönig has to record only two deaths, the following:

Case I.—Patient, aged 64, with carcinoma of uterus. Died two hours after operation.

Case II.—Case of uterine myoma with aggravated mitral lesion. Operation had been previously refused by other surgeons. Death occurred before the operation could take place.

In these cases the usual scopolamin-morphine dosage was given, followed by stovain ·06 grm., and Professor Krönig thinks that the dosage may have been too great for such a case. He now uses a smaller dose, and has never seen either respiratory or cardiac disturbances or depression, and altogether he looks on this form of anæsthesia most favourably.

Professor Krönig has devised an apparatus which rolls on castors, and which contains in separate compartments, chloroform, ether and



From Professor Krönig's recent work on operative gynæcology. (By *permission*).

oxygen. Four litres of oxygen can be passed per minute. The stream of oxygen is divided so as that one half takes up the ether and the other half the chloroform. By an arrangement of stopcocks the chloroform and ether supply can be regulated from two separate cylinders so as to give 5, 10, or 15 drops per minute. There is a reservoir which, while allowing the egress of impure exhalations, prevents the access of air. The vessels arranged for chloroform and ether are filled, and the oxygen reservoir is adjusted for the supply of 4 litres per minute. More ether than chloroform is generally admitted to the mask at the outset. The mask is held pretty firmly over the patient's face by a band. For example, in the case of a healthy middle-aged female, 150 drops of ether are added to the 45 of chloroform. Complete narcosis is obtained in 15 minutes. Sometimes anæsthesia is commenced with nitrous oxide gas. The appliance of Professor Krönig is a modification of Rothdrager's apparatus for chloroform and ether anæsthesia. Two such appliances are always at hand ready charged. I may say that for over three years every abdominal operation performed by me has been done under anæsthesia secured by Vernon Harcourt's Inhaler.

Professor v. Rosthorn's Clinic.

I am greatly indebted to Professor von Rosthorn, Dr. Kermauner and Professor Schottländer, as well as to the assistants in the Klinik, for the most interesting work I saw while at Heidelberg. Professor Schottländer especially I have to thank for the time given to me in the pathological laboratory, and for the specimens which, through his kindness, I am enabled to show to-night.

Asepsis is here carried out with the same scrupulous care insisted on in all German Clinics. The method is: thorough ablution with Schlink's mercuric soap without brushes, then alcohol-mercuric sterilisation; gloves are used. Gut is the principal material employed; the skin is closed with Michel's clamps. Notwithstanding the spinal anæsthesia, Trendelenburg's position is adopted in nearly all gynæcological operations, though not to an extreme degree.

I may briefly remind you of some of the splendid work which has emanated from the Heidelberg Clinik, to which Dr. Karl Kehrer, who is not now on the staff, largely contributed. (His valuable monograph on "The Physiological and Pathological Relations of the Female Sexual Organs to the Intestinal Tract, and Especially to the Stomach," was recently reviewed in the *British Gynæcological Journal*, vol. xxi., February, p. 161.)

Amongst recent investigations at this clinic is one by Professor v. Rosthorn, on *Tuberculosis in pregnancy*. In this paper the whole

Case II.

A submucous polypoid tumour of the uterus was removed from a patient, aged 33. On examination of the growth Prof. Schottländer found these characteristics:

He regarded it as of a lymphangio-endotheliomatous or peritheliomatous nature.

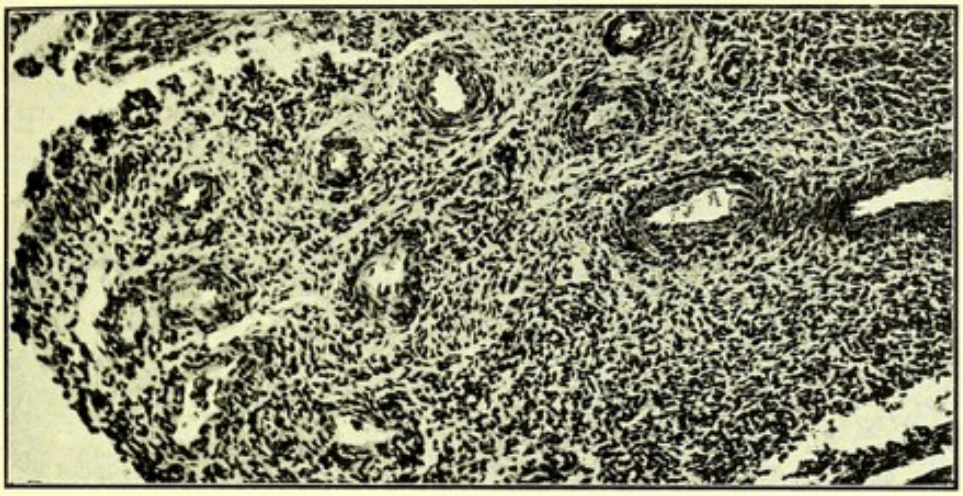


Fig. 8. Sagittal section, taken from the centre of a submucous polypoid tumour growing from the body of the uterus, showing malignant degeneration.

The nature of the growth is not distinctly shown, though in some places the characteristic bundles of endothelioma are seen. × 130.

There is œdema with hyaline degeneration of the connective tissue.

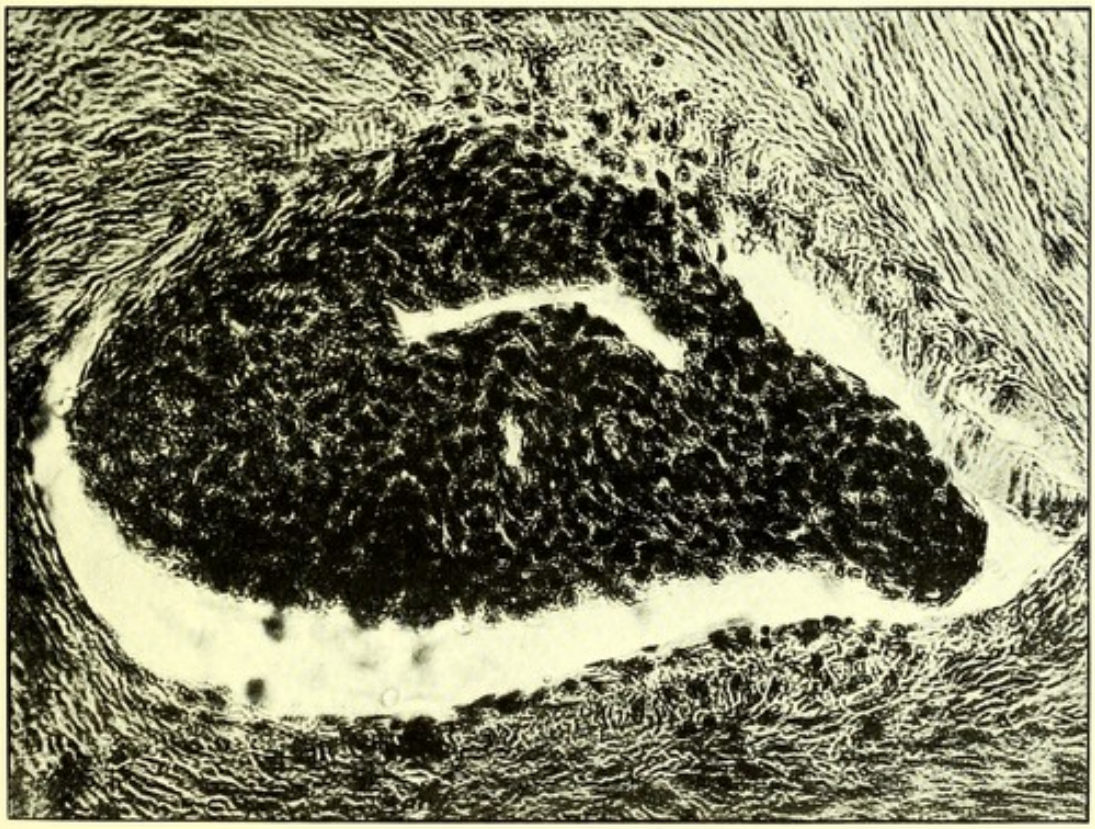


Fig. 9. Sagittal section through the wall of the tumour, including blood-vessel surrounded by empty space, invested with a distinct endothelium. × 250.

the peritoneal flaps are brought together and the subperitoneal wound is packed with iodoform gauze, which is brought out into the vagina.

Last year v. Rosthorn discussed the important question of the etiology and physical signs of *adenomyoma of the uterus*. He notices the connection of tuberculosis in children with delayed puberty, and amenorrhœa and sterility in after life, with adenomyoma. There are attacks of pelvic peritonitis, and urinary affections are common; short vaginal canal, anteflexion of the uterus (which may be infantile) and conical cervix; at times there is a flattened protuberance on the posterior wall of the uterus, and a tendency of the growth to invade the cervix.

The most important of the recent researches of Dr. Kermauner is that on the *anatomy of tubal pregnancy*. This is a careful investigation of the tubal changes, the presence of a pseudo-decidua reflexa, and the formation of hæmatocele. Five cases proved that fœtal elements can penetrate the maternal tissue, and can be traced into the lumena of the maternal vessels. Only in six out of forty cases were decidual changes found in the tubal mucosa.

Pubiotomy.—v. Rosthorn has had one death. It occurred from uncontrollable venous hæmorrhage. No artery was injured.

Puerperal Infection.—v. Rosthorn believes in Trendelenburg's suggestion of attacking the thrombosed pelvic veins by ligature or extirpation. Death had followed only in one case, and in it there was pus in the pelvis.

Professor *v.* Krönig's Clinic.

I do not intend to describe many of the details of the Freiburg Clinic. Enough for me if I arouse sufficient interest in your minds to induce you to visit it and see the installation for yourselves.

A prominent feature is the powerful electric light, which is so arranged at the end of the theatre opposite the window (the latter being constructed like a half horseshoe, running from the ground to half-way along the ceiling) that it can be directed on a mirror placed at such an angle as to reflect the light directly into the pelvis, thus avoiding the unpleasant heat which is experienced from the proximity of the electric lamp. I was struck also by the small nickel-covered openings through the tiled walls for the passage of any appliances, and the sterilised saline solution direct from the steriliser. And yet, with all this apparent perfection, I learn from Professor Krönig that the State is about to build a new theatre, a short distance from the present one, and still more perfect. Truly, the State recognition of excellent work in Germany is an object-lesson to the world!

Sterilisation of the Hands.—This is completed, after fifteen minutes' scrubbing, by washing for five minutes' with watery solution of sublamin, 1 in 500 (Schering, Berlin). When the hands are

dried they are coated over with a covering of 10 per cent. zylol paraffin. Rubber gloves are not used in ordinary cases—only in carrying out spinal anæsthesia and where there are septic conditions, or when the rectum has to be explored.

Trendelenburg's Position.—I noticed that this was seldom resorted to, and, in consequence of the cardiac complications in some myomata, Professor Krönig considers it contra-indicated in operations for these tumours. Also, in spinal anæsthesia he believes it favours the too rapid distribution of the anæsthetic along the cord to the medulla. The objection is based on his experiments on dogs, in which stovain was tried on a series of eight; out of the first four on which the immediate Trendelenburg position was adopted, three died. In the remaining four the Trendelenburg position was not tried, and nothing untoward happened.

Material for Sutures and Ligatures.—Catgut is used almost exclusively, save in enterostomy and appendicectomy, and for reinforcing sutures (three in number) of the wound in Cæsarean section.

Professor Krönig nearly always adopts the Pfannenstiel transverse method of opening the abdomen, believing that the closure of the wound after this method affords greater strength to the abdominal walls and support to the viscera. This incision is specially used in operations on myomata, in morcellement, and always in Cæsarean section. He reserves the longitudinal incision for certain carcinomatous cases, and now uses it very rarely.

The fascia, when divided, is caught up above and below the incision, and is attached to the skin by a single suture, which saves the necessity for a retractor, and keeps the wound well open. An assistant uses lateral retractors to draw apart the recti muscles and peritoneum. At Freiburg, as at Heidelberg, the second assistant stands (on a small platform if the Trendelenburg position be chosen) between the thighs of the patient.

Cystoscopy.—The principal methods followed are Luy's and Nitze's, with a preference for the former; Kelly's is seldom employed.

Skiagraphy.—In skiagraphing the ureters and pelves of the kidneys, the ducts and pelves are filled with xeroform oil. This defines the urinary tract. I saw a most interesting series of skiagraphs illustrative of the various abnormal conditions of kidney and ureters, taken by Professor Krönig in this manner.

A few notes on certain gynæcological and obstetrical questions may be of interest.

Removal of the Appendix.—This is practised as the rule in all abdominal operations, whether the appendix be normal or otherwise, unless the additional length of time involved be detrimental in a prolonged and exhaustive operation. Curiously enough, I saw at the

See page 20.

Clinic one case, operated upon by Professor Krönig, in which the appendix was absent.

Wertheim's and Schuchardt's Operations.—In general, Wertheim's method is followed, save in very obese women, when Schuchardt's is preferred. If abnormal, the glands are removed. The Wertheim method is carried out in 90 per cent. of the cases.

Suspension of the Uterus.—Save in cases where there are adhesions and adnexal complications (when ventro-suspension is practised) the Alexander-Adams operation is performed.

Lavage of the Abdomen.—This is rarely employed.

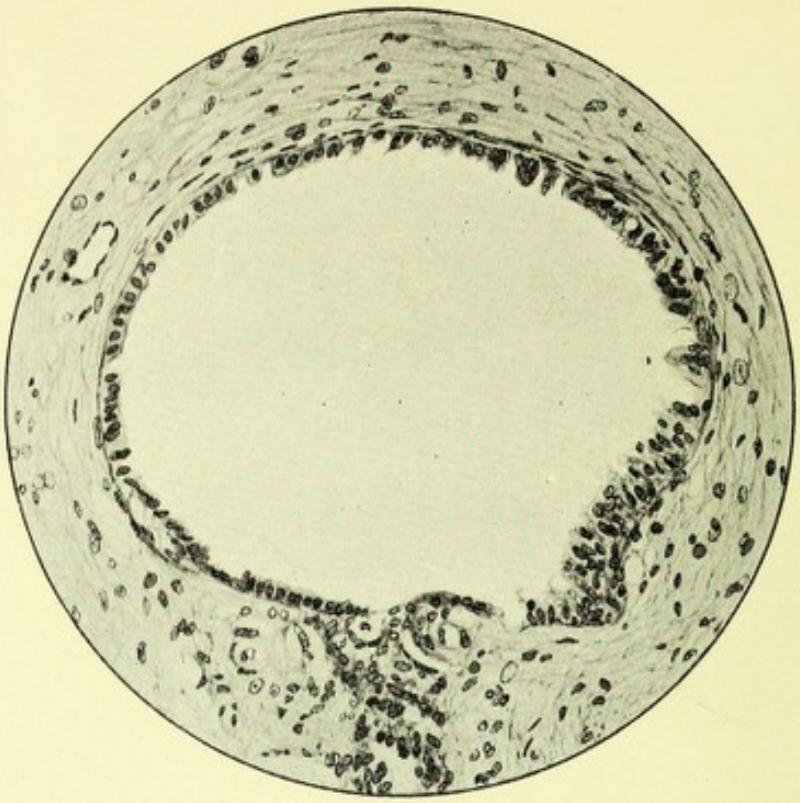
Pubiotomies.—Professor Krönig has performed thirty pubiotomies without a maternal death; two children died. When the head is high, there is the danger of rupture of the bladder. This danger is minimised if the bladder be low.

Post-partum Management.—The patient, after normal labour, rises the day following delivery, and is taught deep-breathing exercises up to the sixth day, after which she pursues such gymnastic exercises, as arching of the spine while lying on her back, and elevation of the lower limbs. Alternate douches of hot and cold water are given over the perineum, thighs, and abdomen, to stimulate muscle tone. Post-partum peritonitis is usually treated by multiple abdominal openings to allow of free drainage. Professor Krönig in some cases unites the cæcum to the abdominal wall until the symptoms subside, subsequently closing the fistula. He has not yet operated for septic thrombosis or cellulitis by the method of removal of the thrombosed veins advocated by Trendelenburg.

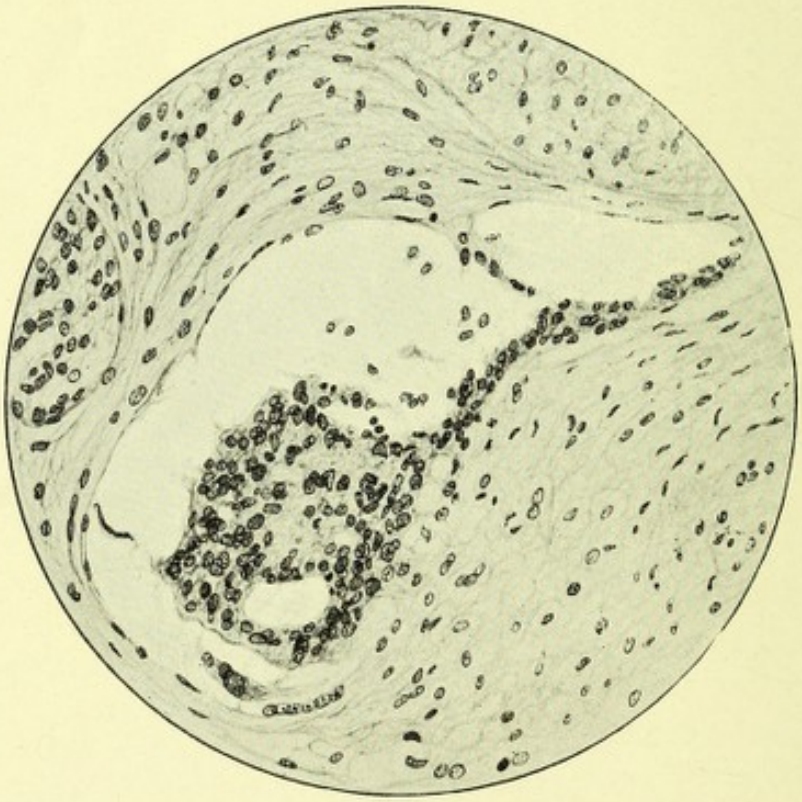
In *Ante-partum Eclampsia* rapid removal of the child is the main indication. For this purpose the cervix is divided by Dührssen's method and delivery completed.

My excuse for detaining you at such length is that it must happen to all of us that we are occasionally tired of hearing our own voices; perchance—more rarely—that we are wearied of the perpetual chanting of our own deeds, and the doxologies which wind up the recitals of our victories—often not very glorious ones—over our common enemy, disease. Even our failures afford us a certain grim satisfaction, and it might be well for us if they taught ourselves and our hearers even more than our successes.

It is a break, then, in this monotonous rhythmic monthly recital of what the "I" is doing, to change to the possibly more instructive description of what "they" are doing. We get down from the giddy heights of our self-satisfying survey of our excellencies to the lower plain of the more humble, if not humilitating, realisation of what some masters in our art can teach us.



Tubular space lined with actively proliferating epithelium.



Alveolar space containing a mass of squamous epithelial cells.

Primary Carcinoma of the Vagina.

Primary Carcinoma of the Vagina.*

The patient from whom the growth shown was removed was a woman of 65, a widow, who had been 38 years married. There had been four pregnancies. She had had some vaginal discharge for two years. The growth had not, however, been discovered until one week before I saw her, when she had come a long distance by train, and was carried into my study. I found a fœtid mass inside the vulva; the bladder was distended, and I drew off some five pints of water. The patient was too exhausted to make a complete examination, as she had been suffering from sciatica, and the pain she felt on movement of the limbs made it most difficult. For three days she had repeated strychnine and atropine injections with nutrient enemata.

On the fourth day, I removed the growth, under the scopolamin, morphia, and chloroform method of anæsthesia. Part came away as a slough. I found it grew from the lower border of the lateral wall of the vagina, and that descended deeply into the connective tissue and encroached on the bladder. It was botryoidal in character, and the deeper part was pedunculated—so that I thought it was of sarcomatous type, being similar to a case of sarcoma of the vagina which I brought before the society on a former occasion.

Neither the uterus nor any other part of the vagina was involved, nor were the inguinal glands affected. Severe neuritis in the left thigh was the only other trouble. I ablated the growth, going as deeply as I could into the cellular bed, and then used the cautery freely. She left the home shortly afterwards, as there was no use in detaining her further. †

Dr. Cuthbert Lockyer's report was as follows:—Malignant growth, made up of branching columns and masses of squamous epithelial cells. The latter are burrowing cell nests, and lie in alveolar spaces, the stroma around consisting of coarse fibrous tissue. There are also present blind tubules lined with columnar epithelium, actively proliferating in a malignant manner. The presence of two types of epithelioma in genital carcinomata is common in elderly females.

Roger Williams, in his paper on vaginal cancer in the *New York Medical Record* (November 30, 1901) says, that of 9,226 tumours

* Read before the British Gynæcological Society, March 14th, 1907.

† I have now learned that the patient died ten weeks after operation from implication of the bladder and invasion of the bowel.

tabulated, there were 40 of cancer of the vagina, and 2 of sarcoma. He considers that "notwithstanding its rarity, cancer of the vagina is by far the most common form of vaginal neoplasm. According to Friedl, the medical journals up to 1896 contain records of 130 cases. Roger Williams himself has met with five examples. He places the proportion at 0·43 per cent. of all cases of cancer in women, taking his data from the chief London hospitals. Gwelt, from the Vienna hospitals, gives it at 1·6 per cent. In Hamberg, of 7·498 cancer deaths tabulated by Reiche, only 29 were from the vagina—that is, 0·38 per cent., and of Reiche's 4,507 cancer cases, 1·1 per cent. were vaginal. Williams, averaging these latter results, comes to the conclusion that some one per cent. of all cancer in women is of vaginal origin. Williams notes some interesting clinical and histological facts in connection with vaginal cancer. Briefly stated these are:—

(*a*) Vaginal irritation does not appear to play a part in its production. Pessaries exert no influence.

(*b*) Nearly all primary vaginal cancers appear to partake of the squamous epithelial or epidermoidal type.

(*c*) Having discussed the histological features of the vaginal membrane, in the comparative absence of pigment and glandular structure, as also its embryological development, he divides the forms of vaginal cancer into two—tubular and lobular.

The tubular begins "in proliferating cells of the inter-papillary region of the rete mucosum, or its aberrant extensions growing into the adjacent stroma." Multiplication and development proceeding, knobby projections and ingrowing columns result; these may grow slowly, and there may be no dissemination. This gives the chronic type of the disease.

The lobular, and much more usual form, is, on the other hand, marked by the formation of nests; rapidity of growth is common by branchings and anastamoses, and this causes dissemination.

(*d*) Regarding its clinical characters, the posterior wall and upper part of the vagina is the most usual seat; it may commence either as a papillary excresence, an elastic nodule, or an infiltration, and then follow the usual characteristics of the disease, with all the consequences of dissemination and pelvic involvement of organs.

The initial symptoms vary; pain, discharge and menorrhagia may be present, though before the existence of the disease is discovered it may have made considerable progress. The dissemination may be associated with and followed by metastases in different organs, and suppuration may occur in the inguinal glands (as in Herman's case), which are frequently involved. Death usually occurs from asthenia.

(*e*) The most common period of occurrence is after the menopause. Nulliparæ are as prone to it as multiparæ.

I have written to a few colleagues on the continent asking them

to give me the results of their experience in regard to primary carcinoma of the vagina. I have had the following replies:—

Professor Fritsch.—During the thirteen years in the Bonn Frauenklinik has not seen one single case of primary carcinoma. In Breslau he has seen four cases.

Professor Kronig.—During the two and a half years he has been at Freiburg has not seen a single case of primary carcinoma. Speaking from memory (as the results of his work at Jena and Leipzig were not available) he could only remember having operated on four cases in all, and with the exception of one case the disease quickly recurred.

Professor Jacobs (Brussels) says that in his experience primary carcinoma of the vagina is very rare. He has only met with four cases.

Professor Bumm (of Berlin) says that he has only seen carcinoma of the vagina twelve times amongst 433 cases of carcinoma of the female genitalia. In these cases there was only one in which the carcinoma was primary. Cancroid of the portio, and cancroid of the vulva encroaching on the vagina, were not included in this number.

Professor Schottlaender (Heidelberg) says that of 150 cases of carcinoma of the uterus he found 4 primary carcinoma of the vagina. This is above the usual average—2 per cent. is probably excessive.

Professor Franz (of Jena) says that of 125 cases of carcinoma of the portio, which he has had in the klinik since October, 1904, there have been two of primary carcinoma of the vagina.

Professor Zweifel (Leipzig) says that in 1906, out of 1,400 cases of carcinoma, there were four of primary carcinoma of the vagina.

Dr. Martin (Griefswald) regards carcinoma of the vagina as a disease of great rarity. Some of the cases are undoubtedly metastatic, and occur after operations for cancer of the portio or for chorio-epithelioma. Operative results are unsatisfactory. Pozzi in his "Traite de Gynœcologie," says that Martin has only seen it once in 5,000 women, or 0·08 per cent.

Professor Schauta (Frauen Krankheiten, ii., p. 263) divides the carcinoma into two forms: (*a*) cauliflower proliferation, globular with relatively small base; (*b*) superficial, nodular, slightly elevated and attacking wide areas of the vaginal wall, arising from the squamous epithelium or in rare cases from abnormally situated glands.

George A. Noble, of Atlanta, writing in 1906, in Bovée's *Practice of Gynæcology*, says that primary carcinoma originates in the region of the urethra or in the posterior wall; the extension of the disease is rapid and the cellular tissue is soon involved—implication of the bladder and rectum not being infrequent. In Eiselberg's case, quoted by Montgomery (2nd edition, 1904, pp. 588–589), the coccyx

was extirpated, the sacrum resected, and six inches of the rectum was removed together with the entire posterior wall of the vagina and both adnexa, ablating portion of the perinæum. The patient recovered with control of stools. Contrary to the views of other writers, Montgomery considers that primary carcinoma of the vagina, though very rare, is a disease of early life, and is met with in the twenties, whereas Gurlt says (Reed, 1904, p. 233) that it has not been met with under 25.

Klein (Pozzi, Traité Gynocologie, 4th ed., 1907; Arch. f. Gyn., 146, p. 292) records a case of endothelioma of the vagina in a woman of 55 years. It was a lymphangio-endothelioma of the hæmorrhagic type.

Franké has recorded in his inaugural dissertation (Berlin, 1898) a somewhat similar case, in which the tumour took the form of a diffuse infiltration.

In both cases the origin appeared to be equally in the lymphatics and the blood-vessels.

Gebhard has reported a case in a girl of 14 years of age. (Path. Anat. der Weiblisch. Sexualorgan, 1899,, p. 554).

Pozzi, in the 4th edition of his work (vol. ii., p. 1169) says:—"Primary cancer of the vagina is very rare."

The youngest cases on record appear to be those of Guersant, who has adopted a case of cancer of the orifice of the vagina in a little girl of $3\frac{1}{2}$ years; and Johanowski in a child of 9 years. But a case has been recorded by Smith in which the disease appeared in an infant of 14 months.

Hegar, Schmidt, Gebhard and Winckel have each observed cancer of the vagina arising out of an ulceration caused by the wearing of a pessary.

Pozzi operated on a case in which the disease was present in the upper part of the vagina in a woman in which the vulva was contracted and which was removed by transverse perinœotomy. The recto-vaginal fold was resected with the scissors as far as Douglas' pouch, the vagina was incised behind the cervix, and the neo-plasm (as large as a five franc piece, and removed from the cervix by an interval of two centimetres) was drawn down and freely excised. The breech was closed by sutures; the peritoneum drained by gauze, and the perinœum closed by metallic sutures.

The patient made a rapid recovery.

Thorne (Cent. f. Gyn., 1895, p. 240) operated in a similar manner.

Multiple Fibro-Myomata of the Uterus, Curiously Similar in Character, in Mother and Daughter.

(Reprinted from the Journal of Obstetrics and Gynæcology of the British Empire, April, 1907.)

THE following coincidence—if coincidence it be—in regard to a fibro-myomatous tumour, is so rare that I think it worth recording.

In February 1901, I operated on a patient, aged 54, a multipara, for the removal of a large fibro-myomatous tumour. She had been very anæmic for some time and had, when she consulted me, a hæmic murmur with very feeble and compressible pulse. There were then profuse hæmorrhages, and she had to be nursed up for a month before I could operate. The tumour, on removal, proved to be a rather soft fibro-myoma, and interspersed throughout its substance were a multitude of small nodules too numerous to count, varying from the size of a pea to that of a Tangerine orange. The uterine canal was greatly enlarged and filled with thick mucoid fluid with degeneration of the endometrium, which was soft and pulpy. The patient made a quick recovery and is still in good health. (See Fig. I.)

Recently, her daughter aged 33, unmarried, was sent to me for operation. She had commenced to menstruate at 15; had always been regular; had had no menorrhagia, but occasionally an erratic loss between the periods; and had been suffering acute abdominal pain, on and off, but more particularly after the periods. Of late these pains had increased and had been attended by sickness.

The tumour was fixed in the pelvis and filled its cavity. At the operation it was found a little difficult to dislodge it. There were, however, no adhesions. I may mention that the anæsthesia was maintained by the scopolamin, morphine, and chloroform method which is the one, unless there be some special contra-indication, that I always now pursue. With it I associate, an hour before operation, a hypodermic injection of strychnine and atropin. The patient made a good recovery.*

On examining the tumour after its removal I found, to my surprise, that it was a miniature of her mother's. It is depicted in the drawings somewhat reduced (about $\frac{1}{4}$th) from the natural size. It

* This method I have now used in a number of cases and find it excellent

was one mass of small nodules disseminated throughout the substance of the tumour, some of them being of the size of a filbert or a walnut. The uterine canal was dilated and filled with thick mucus, and the walls were softened in the same manner as in the tumour removed from the mother. The tumour is very fairly represented in Figs. II. and III. It was shown at the British Gynæcological Society, February 14th, 1907.

Description of Plates.

I. Fibro-myoma removed from the mother, showing numberless small nodules throughout its substance.

A—A. Divided canal.

II. Appearance of section of fibro-myoma removed from the daughter. A large number of small nodules is seen to be disseminated throughout the tumour. The drawing is reduced about one-fourth from the natural size.

A. Broad ligament.
B. Fallopian tube.
C. Round ligament.
D. Uterine cavity.

III. External appearance of tumour shown in preceding illustration.

Note to Page 13.

At St. Ronan's the sterilisation of the hands and arms is carried out as follows:—

1. Scrubbing for 5 minutes with Izal Soap and hot water.
2. Scrubbing for 3 minutes under running Lysoform, 1—100.
3. Soaking in equal parts of Ethylene Mercuric (Sublamin) 1—1000, and Alcohol for 2 minutes.
4. Thorough drying with sterilised towels. Rubber gloves are used in special cases.

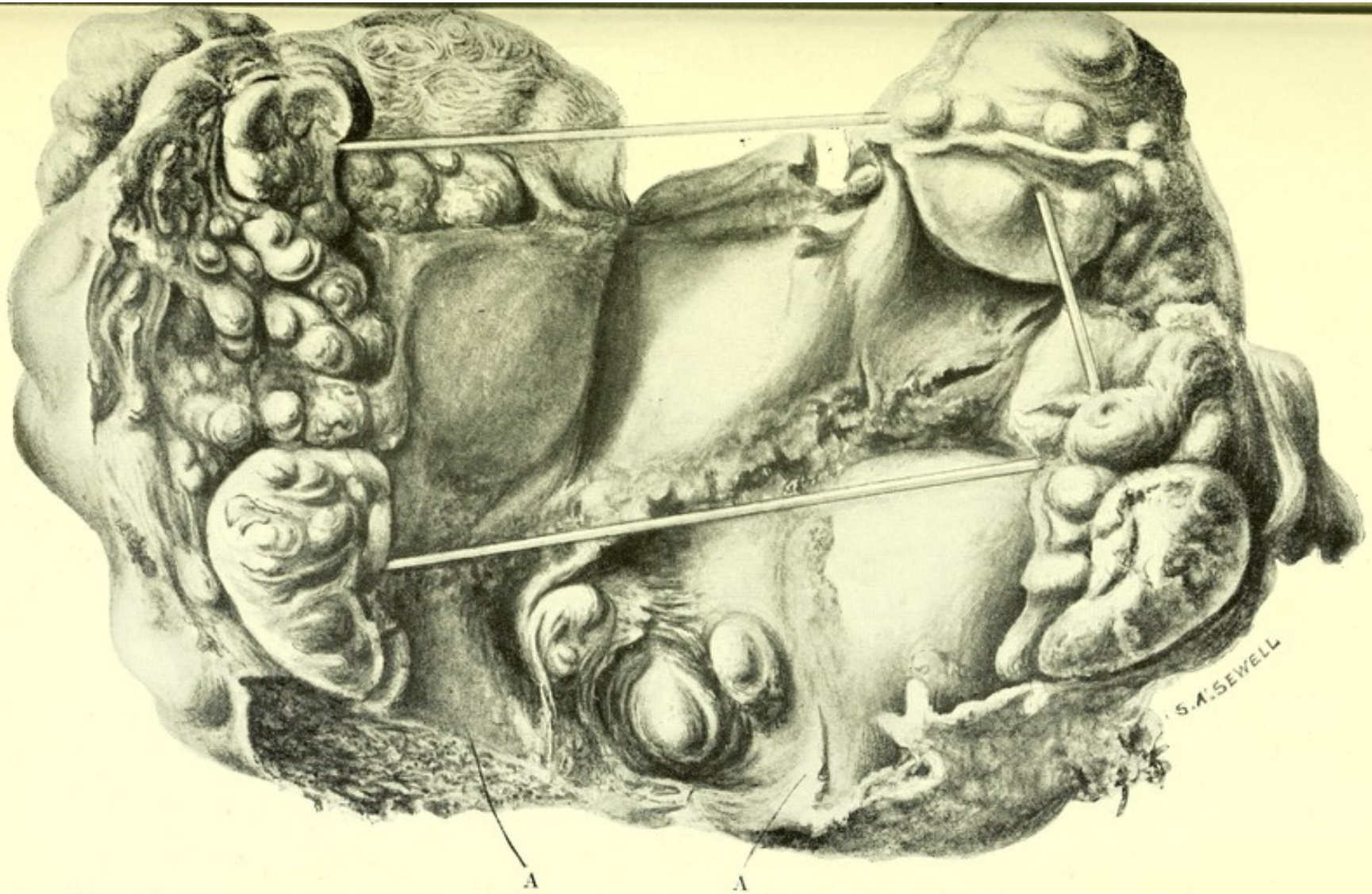


Fig. I.—Tumour removed from mother, laid open, shewing the enlarged uterine cavity and the numberless nodules scattered throughout its substance.

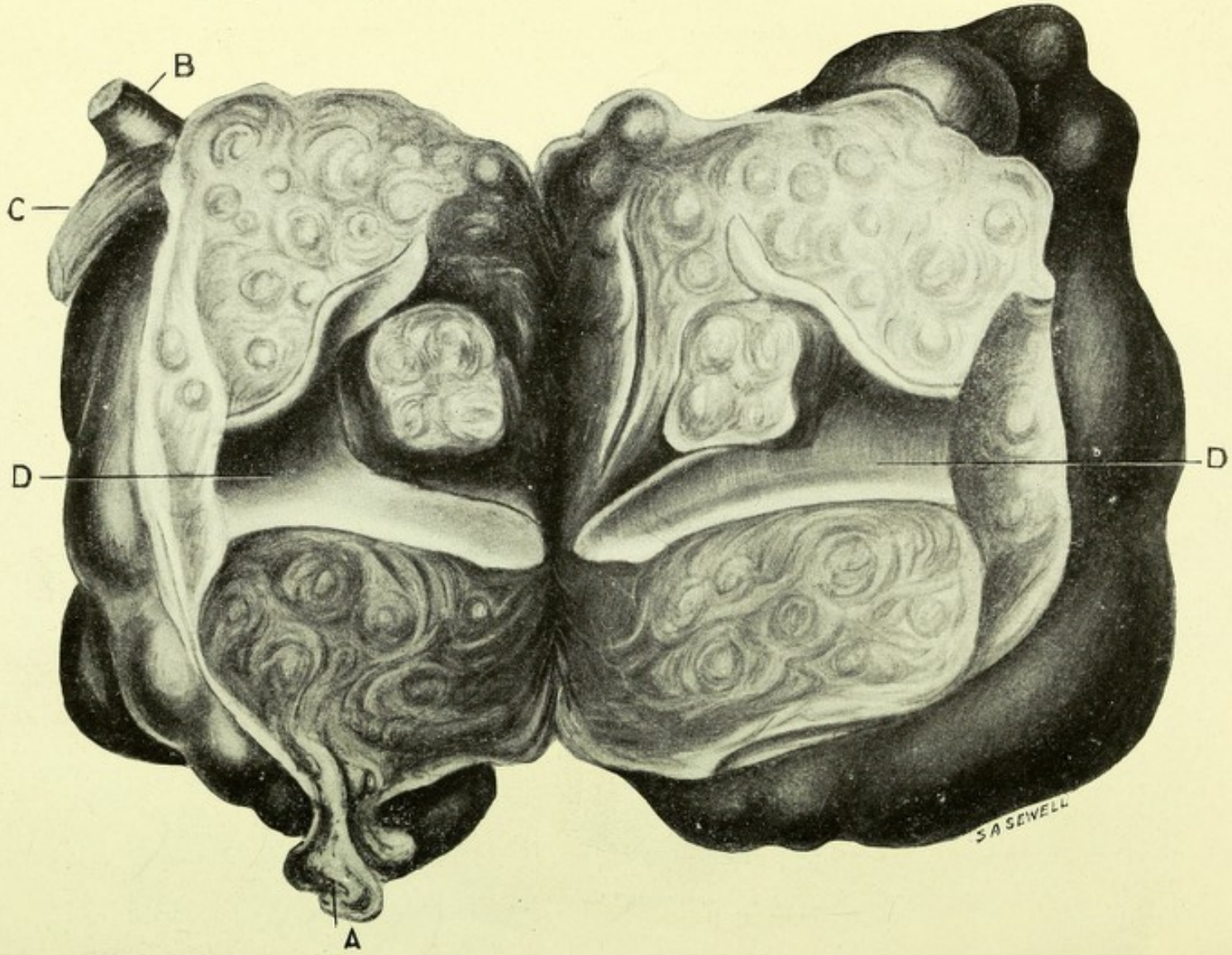


Fig. II.—Tumour of Daughter, laid open, shewing the disseminated fibromatous nodules.

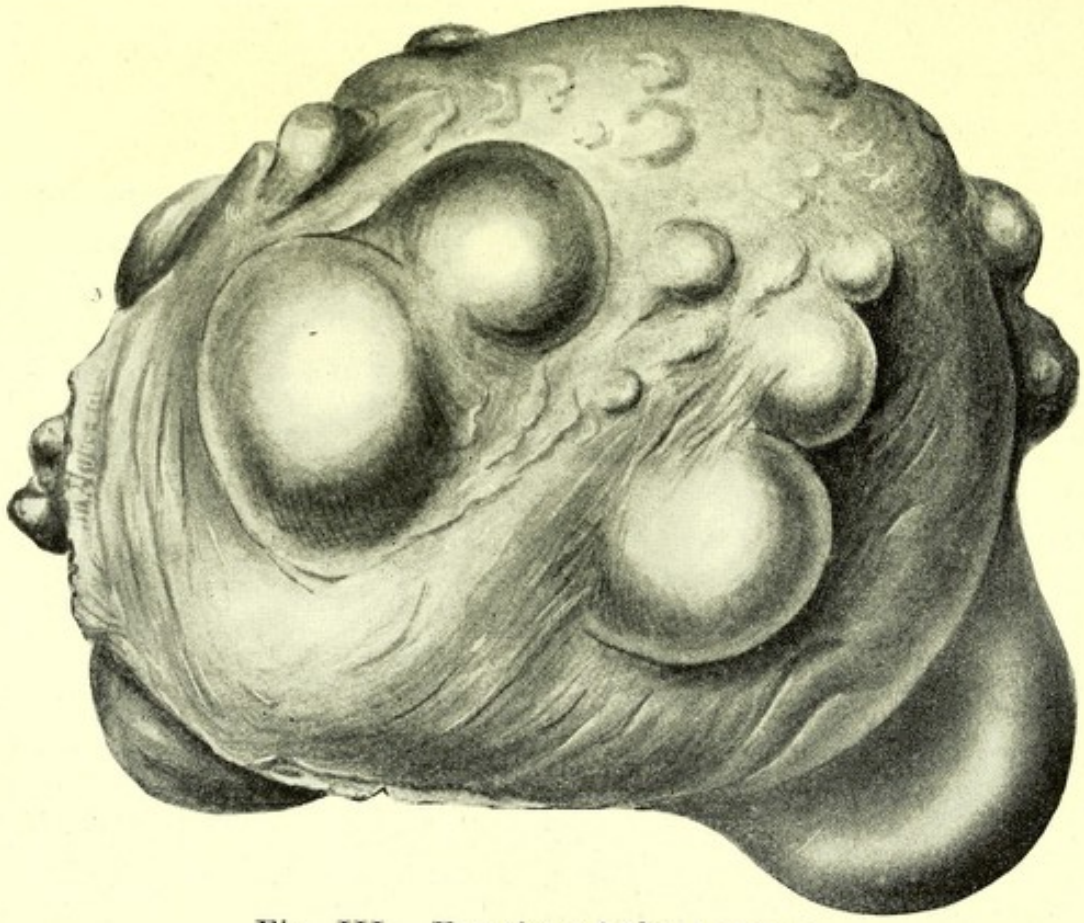


Fig. III.—Exterior of the tumour.

Disintegration of a Uterine Fibro-Myoma Due to Hæmorrhage and Resulting Necrobiosis.

(Reprinted from the Journal of Obstetrics and Gynæcology of the British Empire, November, 1906).

The occurrence of any special pathological change in a myomatous tumour of the uterus is always of interest. The researches of recent years have clearly shown that degenerative changes—many of which must have a fatal termination—are much more frequent than was previously believed. Gynæcological literature is now replete with evidence which proves not merely the number of such changes, but also their serious nature. Work in this field has been done at home by Cullingworth,[1] Fairbairn,[2] and others; on the Continent, more particularly by Martin, Frederick, Fraenkel and Prochownik. In America, Charles Noble[3] has, on different occasions, brought the subject prominently into notice.

In the *Edinburgh Medical Journal* (Vol. viii., No. 6, for Dec., 1900, p. 493) I discussed the subject of myoma and its degenerations, especially with regard to the bearing of the latter on the question of operation, classifying the various forms of myoma which up to then had been recorded.* In July, 1901, when Noble read his paper at the British Gynæcological Society, I summarized the various examples of degeneration which were to be found in the Museum of the Royal College of Surgeons, and those of all large London hospitals. The results of that search, which I brought before that same meeting, proved that the question of degeneration had not sufficiently attracted the attention of our pathologists, and that there had not been careful investigation of the pathological condition present in the countless specimens of myoma which had been removed and exhibited. Our knowledge has now been enlarged, and much has been done towards determining the influence of such degenerations on the prognosis and treatment of myoma.

The tumour of which I furnish an illustration appears to me, from its clinical aspect and its pathology, to warrant my placing it on record. It shows the negative side in the symptomatology of such tumours, even when they are of a most serious character. That the absence of all the more usually prominent symptoms associated with their presence and growth may be compatible with the existence of most serious, if not fatal, complications, is undoubted.

* "Practical Points in Gynæcology," pp. 135—146, by the Author.

The patient from whom the tumour was removed was thirty-eight years of age. She had never complained of any pain, and when I saw her she distinctly stated that she had never suffered on account of the tumour. Her periods had always been regular, lasting about a week, and not in excess. There had been for a considerable time some leucorrhœal discharge. Her only complaint was that for the last eight or nine months she had felt more easily exhausted after exertion, and on lying down there had been some abdominal distress, which did not, however, amount to a decided pain. She followed her ordinary occupations, and had only noticed the increase in size a few weeks before I saw her. To this she drew the attention of her sister, who at once felt the mass projecting at the left side.

On examination, I found that the summit of the tumour was about one inch above the umbilicus; an irregular mass projected below the umbilicus at the left side, distending the skin at this part. At the operation, on exposing the tumour, this portion was found to be soft and full of fluid. On drawing off some of the latter, it proved to be of a dirty brown colour, inodorous, and evidently disintegrated blood. The abdomen being carefully protected, the cavity was freely opened, and some ten fl. oz. of this fluid escaped. The walls of the cavity were then seen to consist of broken down necrobiotic fibrous tissue, in parts of a pale yellow colour and covered with soft lymph. The appearance of the cavity after preservation with formalin is accurately shown in the drawing.

Dr. Cuthbert Lockyer, who examined the tumour, remarked on the density of its fibrous capsule, the presence of œdematous tissue, and the extreme hardness of the central portion of the growth. It is possible that the primary condition may have been one of telangiectasis.

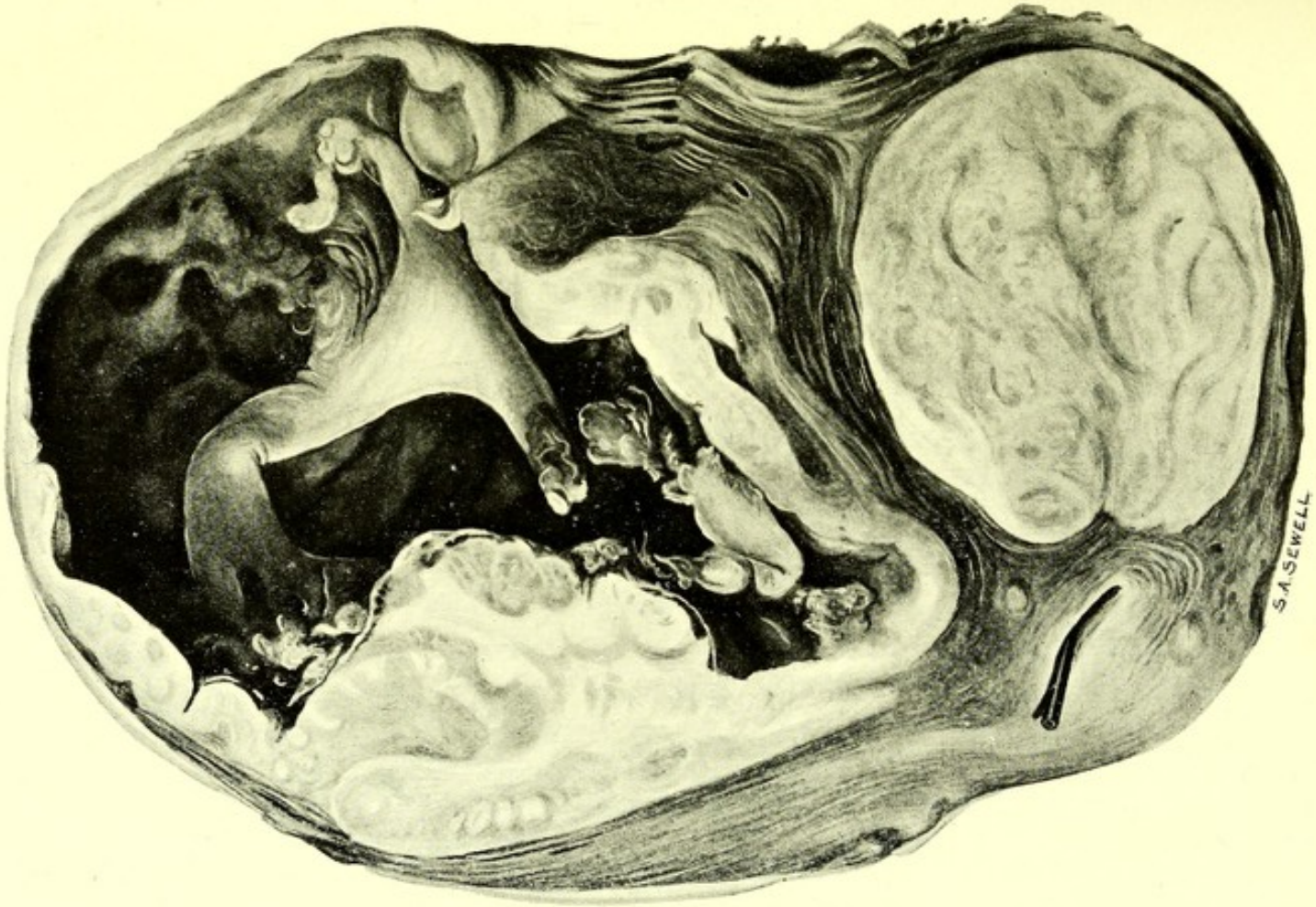
The tumour was removed by supravaginal hysterectomy, and the patient has made an uninterrupted recovery.

References.

1. "An analysis of one hundred cases of uterine fibro-myomata, in which the condition of the tumours and the complications to which they had given rise were verified by operations." *Journ. Obstet. and Gynæcol. of the Brit. Empire*, 1902, vol. i., p. 3. *Ibid.* November, 1906.

2. "A contribution to the study of one of the varieties of necrotic change—the so-called necrobiosis—in fibro-myomata of the uterus." *Journ. Obstet. and Gynæcol. Brit. Empire*, London, 1903, vol. iv., no. 2, p. 119.

3. *Brit. Gynæcol. Journ.*, August, 1901. *Amer. Gynæcol.*, April, 1903.



Degenerating fibro-myoma, showing the large necrobiotic area with the cavity which was filled with sanguineous fluid.