Hysterectomy for uterine fibroid disease in early pregnancy / by Alban H.G. Doran.

Contributors

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found the combination at times to act well in practice. Digitalis given alone is frequently found to aggravate

matters in sclerotic cases manifesting angina.

To secure, so far as possible, an equable blood pressure we must avoid as well as employ certain drugs. In this sense tobacco is a drug calculated to raise blood pressure and should theoretically be altogether avoided. The physician will, however, have to judge of the advisability of recom-mending this step by the character and circumstances of individual cases. To deprive a man long used to the solace of tobacco of his "smoke," if he be not a stoic, may be to precipitate rather than to obviate angina. But in any case permission to smoke must be inexorably limited to that minimum which will secure mental as well as vascular equability. We must also endeavour to remove indirect causes of vascular tension. We have been taught by physiologists the value of the play of neuro-vascular action in the splanchnic area as a safety-valve to threatened excess of vascular pressure elsewhere, and the use of certain agents which combat fermentation and promote the flow into the prime viæ of the natural secretions which secure a normal blandness of intestinal content is of the first importance. Among such agents I should place in the first rank the milder mercurials—calomel and blue pill. I have cardio-vascular patients who have taken from half a grain to one grain of calomel once or twice a week regularly for a twelvemonth at a time with unquestionable benefit in maintaining an equable blood pressure. This practice on my part is no recent procedure but I did not derive it from my alma mater, the University of Edinburgh, for when I was in my professional infancy my clinical teacher, one of the ablest who ever felt a pulse—the late Professor Hughes Bennett—had, perhaps, among some dislikes one prime aversion—namely, mercury in every form. So that I began practice fully convinced that, did I prescribe that drug to my patients, I should shortly have around me a tremor-struck and gibbering public execrating me as the mercurialised prisoners in a quicksilver mine might their gaoler. From this delusion I was freed many years ago by the distinguished physician who is the President of this College and whose views on the beneficial effects of wisely administered mercurials in securing an equable blood pressure are now so well known. How mer-curials act in these circumstances, whether as eliminants, as Sir William Broadbent suggests, 20 or as antiseptics, or as more direct vaso-dilators, it is not necessary for practical purposes to inquire. Their action is, without doubt, frequently beneficial in maintaining a certain softness and pliancy of pulse for long periods. General gastro-intestinal medication by alkalies of acids as required, or by the use of saline or other aperients, is indicated for the same reasonnamely, to remove or to correct possible causes of intermittent blood pressure of an injurious character. It is po-sible that some of the good repute enjoyed by iodide of potassium in cardio-vascular sclerosis may be due to its efficacy in cases of specific origin, but such a supposition does not account for its general use by observant physicians. Although the drug had some vogue in such conditions before the advocacy by Dr. Balfour of its usefulness, there can be no doubt that his emphatic and authoritative utterances in its favour have done much to secure its general adoption as a cardio-vascular remedy or agent in treatment. He compares its action in one place to that of the nitrites 2' and in another refers its therapeutic effects in a ortic aneurysm to the reduction by it of intra-arterial blood pressure. The dose he recommends for continuous use as a vaso-dilator is two grains every 12 hours. The one objection to its employment has perhaps more weight in cases of angina pectoris than in cases not associated with these paroxysms-namely, its tendency at times to cause gastro-intestinal irritation and thus to provoke those reflexes which induce irregularities in vascular pressure. But the same objection applies to mercurials, and if the administration of both these useful agents be coupled with a scrupulous care as to the blandness and sufficiency of diet and the avoidance of condiments such as vinegar, ketchups, and effervescent wines an beverages, this objection is in no way comparable to the advantage which is constantly derived from their use in the intervals between attacks of angina. Concerning the modus operandi of the iodides in inducing a more equable vascular tone there is

room for legitimate differences of opinion, for much obscurity attends our present knowledge of the subject. We must be content, meanwhile, to act empirically so long as our action is beneficial to the retient and main for the content. is beneficial to the patient and wait for that enlightenment which science sooner or later affords those who industriously look for it and patiently expect its advent.

Drugs other than powerful analgesics and vaso-motor agents may be of service in some cases of angina. If the malady be associated with anemia due to some specific cause such as malaria, or be attributable, as appears to be the case in some instances, to lead poisoning, or be aggravated by defective blood states of the kind more commonly met with, the treatment of the accidental state, secundum artem, by such agents as arsenic or iron or iodide of potassium, as the case may be, is calculated to be of benefit. In functional or inorganic cases they may be all that is necessary to effect a cure when coupled with

attention to general hygiene.

What has been said as regards the treatment of angina pectoris applies in the main to the treatment of angina sine dolore or syncope trepidosa. As Dr. Leech has remarked, although the ultimate influence of the nitrites on the cardiac muscle is depressant, it is probable that by inducing a larger number of smaller contractions the nitrites help to unburden an overladen heart, even if the individual contractions be less powerful than normal. But in the syncopal variety of the complaint, if we still classify it with Heberden's disease hypodermic injections of strychnine find appropriate and, at times, life-saving employment. M. Huchard has well remarked 30 that in some severe cases of painful angina the pain itself is the best safeguard against an overdose of a direct analgesic like morphia. So, also, it may be equally cogently maintained that in painless or syncopal angina the syncopal state is the best antidote against the injurious influence of a somewhat bold use of strychnine. With this powerful agent we may usefully combine, as in the case I have related, the tincture of strophanthus, which acts as powerfully on the heart as the pre-parations of digitalis and is less likely than the latter to raise a peripheral obstacle to the circulation as it acts less on the di-tant arterioles. Such a combination may be to syncopal angina what opium, chloroform, and atropine are to painful angina of a severe type.

We have now discussed with such fulness as the limits of

our time will permit the nature, causes, and treatment of cardiac pain. Great as still is the obscurity of many important questions which are raised by a study of Heberden's disease, the retrospect of our progress in the knowledge of angina pectoris since he wrote in so masterly a manner is not discouraging. The ever-compelling future which justifies and renders interesting the present may be considering which the last century has exhibited; and it does not require the vision of the seer to predict that much that is still a sealed book to us in the matters we have been considering will a century hence or sooner be common knowledge. But that this devoutly to be desired end may be reached thought must ever be the handmaid of observation and we must be careful to rear the superstructure of our conclusions on the rock of patiently verified fact.

Benses (a forth case is but in Edic has Jourse HYSTERECTOMY FOR UTERINE FIBROID Sep. DISEASE IN EARLY PREGNANCY

> BY ALBAN H. G. DORAN, F.R.C.S. ENG., SURGEON TO THE SAMARITAN FREE HOSPITAL, LONDON.

THREE somewhat interesting cases of hysterectomy during early pregnancy have recently occurred in my own practice. In all there was a fibroid in the lower segment of the uterus posteriorly, preventing normal labour or delivery through the vagina by any means and in all immediate removal of the uterus seemed to be the best course to pursue in the interests of the patient.

I need not discuss the important question of the treatment of the gravid fibroid uterus at length, as that has been already done by well-known writers, for instance by Dr. C. J.

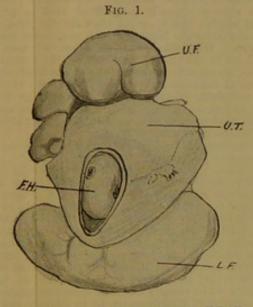
The Puls*, 1890 p. 182.
 Op. eit., p. 379.
 Op. eit., p. 467.

²⁹ Groonian Lectures, THE LANCET, July 24th, 1893, p. 1505.
³⁰ Op. eit., p. 676.

Cullingworth, who recently wrote an interesting article on the subject well worth perusal and by Mr. J. Bland-Sutton whose papers on the same question appeared in The Lancer.2 All obstetricians and surgeons who undertake hysterectomy should study Dr. Leopold Thumim's valuable monograph on operative experience since 1885.3 There was an excellent discussion at a meeting of the Obstetrical Society of London in 1901 after the reading of a communication by Dr. Archibald Donald on fibroid tumours complicating pregnancy and labour, to which I shall have occasion to refer. now relate the three cases in my own recent experience. I am indebted to my friend and colleague, Dr. C. Hubert Roberts, for the instructive drawings illustrating the relation of the tumour to the uterine cavity.

Case 1. Pregnancy in an elderly primipara; uterus lying between two fibroid outgrowths, one obstructing the pelvis; hysterectomy at the fifth month; recovery.—A full report of this case was published in The Lancer. The patient was 40 years old. She had been married two years and had never been pregnant till on this occasion. I watched the progress of the pregnancy for a month and found that a large fibroid mass behind and below the uterus did not rise, but, on the contrary, was beginning to block the pelvis. In consultation with Dr. Roberts it was agreed that it was not advisable to wait till term and then to undertake a Casarean section. I therefore performed retroperitoneal hysterectomy in the fifth month of pregnancy on Nov. 1st, 1900. The patient was in good health in July, 1902.

The illustration (Fig. 1) is reduced from a drawing in the Transactions of the Obstetrical Society, vol. xliii., 1901,



Uterus and tumour, Case 1, seen from in front. U.T., Uterus. F. H., Fætal head, showing one ear; three fingers are also visible. U. F., Upper fibroid which occupied the right hypochondrium and did not interfere with the pregnancy. L. F., Lower fibroid which blocked the pelvis. (Museum, St. Barthelomew's Hospital, Pathological Series XLIV., 3000 C.)

pl. 12. The upper tumour occupied the right hypochondrium; the lower, which sprang from the back of the posterior segment of the uterus, fitted closely into the pelvic cavity and pushed the cervix up against the pubes. Both fibroids were very hard and had the lower been pushed upwards the uterus might have been ruptured between them like a peach between two stones. The specimen is preserved in the museum of St. Barthol mew's Hospital.

Case 2. Fibroid uterus; numerous abortions; pregnancy to term, child saved; six years later pregnancy with large fibroid in the posterior part of the inferior segment involving the cervix; violent attacks of pain; hysterectomy at the fifth month; recovery.—A woman, aged 39 years, who had

been married 17 years, was brought to me by Mr. C. Eastwick-Field of Midhurst on Jan. 3rd, 1902, as he suspected pregnancy complicated by uterine fibroid. She had aborted no less than nine times, the last occasion being six years ago; then she became pregnant again and by careful treatment Mr. Eastwick-Field succeeded in keeping off the usual accident, so that she was safely delivered at term of a healthy boy, now five years old. Ten years ago she was under treatment in a hospital for dysmenorrhoea. Menstruation was regular till August 20th, 1901, when it was last seen. About a week earlier the patient noticed a small lump somewhat to the right of the middle line in the hypogastrium. This lump enlarged till the end of October and since then it seemed to remain stationary. In the second week of October there was discharge for several days and two large clots were passed. During November a watery, brownish, and odourless discharge escaped from the vagina for nearly a fortnight, then watery fluid came away in quantities; it ceased and for the last five weeks there was no more discharge. Morning sickness began at the end of September and lasted till the end of November, after which date it ceased altogether. On Dec. 28th the patient noticed a second lump in the left iliac fossa; she thought that she felt movements in it. On the same day violent labour-like pains set in and lasted for nearly three days. The patient had always experienced difficulty in holding urine long since the birth of her child and the trouble increased during the present pregnancy. Contractions were detected in the mass on the left, the vagina showed purplish colouration, and the os was very patulous. The mass on the right felt very hard; on that account the condition was suspected to be more probably fibroid complicating pregnancy than extra-uterine gestation. The patient was tall, anæmic, thin, and much exhausted from the recent violent attack of pain when she came under my care. I found an oval, hard, solid tumour occupying the hypogastrium and right iliac fossa; it reached to within three inches of the umbilicus and was fixed. On its left and behind it, separated by a distinct cleft, was an oval soft tumour reaching almost to the left hypochondrium and extending to the middle line. On palpation this soft tumour was felt to contract and a souffle was clearly audible. The cervix, wide and patulous, was completely displaced to the left but was not actually squeezed against the brim. The hard tumour on the right descended into the right fornix and indeed occupied all the pelvis except the corner to the left where the cervix lay, but did not come down low. It was continuous without any groove with the right side of the cervix; at that point the pulsations of the uterine artery were very clear. The whole was quite fixed. The breasts were small, the nipples were rather large, and a little moisture exuded from them on pressure. The urine was scanty and high-coloured; it contained a trace of albumin. The temperature never exceeded 99.2° F. during the four days before operation when she was under my observation. The pulse was rapid and exceeded 120 on Jan. 5th after a sleepless night due to attacks of pain round the tumour. There was no history of any general illness.

On consultation with Mr Eastwick-Field and Dr. Roberts it was agreed that owing to the position of the tumour it could not be pushed up. Three courses remained: (1) to empty the uterus; (2) to wait till term and to perform Cæsarean section; and (3) to remove the uterus at once. The first course, induction of abortion, might have been practicable, but even if so it would have entailed considerable danger and if successful would have saved for the patient a uterus which had already proved itself unfit to bear-a more than questionable advantage. Dr. Donald had recently reminded us 5 how, now that the results of operations on fibroid tumours have so much improved, induction of abortion is no longer the safest course for the patient. This obstetric operation in cases of pregnancy so seriously complicated with fibroid tumours as to render any interference necessary is a procedure not by any means free from danger. The cervix is more or less difficult to reach and the uterine cavity is distorted, hence retention of the placenta or the decidua and impediments to the free escape of blood and lochia are necessary results. The danger of primary septic infection is considerable, whilst the risk of a more chronic infection leading to degeneration

¹ Pibroid Tumours of the Uterus complicating Pregnancy, a Record of Personal Experience, St. Thomas's Hospital Reports, vol. xxviii.

² The Surgery of Pregnancy and Labour Complicated with Tumours, The Lancer, Feb. 9th (p. 382), 16th (p. 452), and 23rd (p. 529), 1901

^{1901.}Chirurgische Eingriffe bei Myomen der Gebärmutter in Schwangerschaft und Geburt, Archiv für Gynäkologie, vol. lxiv., p. 457.

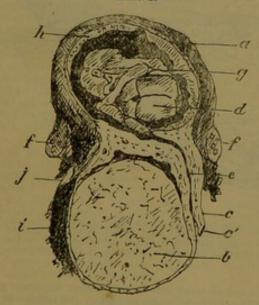
A Case of Hysterectomy for Uterine Fibroid in the Fifth Month of Pregnancy, The Lancer, March 2nd, 1901, p. 621.

⁵ Fibroid Tumours complicating Pregnancy and Labour, Transactions of the Obstetrical Society of London, vol. xliii., 1901, p. 180.

of the tumour or chronic septic changes in the appen-dages is yet greater. There is also serious danger of flooding, which is hard to control when a fibroid exists.

Dr. Donald and others a referred to cases of induction of labour in fibroid disease of the uterus which had ended badly. Cæsarean section at term was contemplated but the patient's health had been failing for several weeks and was now very unsatisfactory. The pulse was high and dysuria was becoming severe. It therefore was questionable whether it would be safe to leave her alone till the middle of May on the chance of saving the child, which is usually ill-developed in cases where a large mass fixed in the pelvis interferes with the development of the uterine body. Immeinterferes with the development of the uterine body. Immediate operation seemed to be the safest course. The advantages and dangers of all three procedures were carefully explained to the patient who unhesitatingly begged to be relieved at once from her miserable condition. On Jan. 6th another severe attack of pain came on with rapid pulse. I therefore operated on Jan. 7th, Mr. A. C. Butler-Smythe assisting. Mr. F. W. Collingwood administered gas and other. The rationt was pleased in the administered gas and ether. The patient was placed in the Trendelenburg position. The abdominal incision had to be prolonged for one inch above the umbilicus. The bladder was not drawn up but lay in its usual position. There was no free blood or clot in the peritoneal cavity and there were no signs of old or recent peritonitis. The uterus and tumour were drawn out of the wound with ease. I found the ovaries lying high up on the mass; they looked unhealthy so I determined not to save them. The left broad ligament was tense. mined not to save them. The left broad ligament was tense. I tied the ovarian vessels and then the round ligament and divided the broad ligament. The right ovarian vessels, which were very large, were then secured. The right round ligament, which was greatly stretched as it ran over the face of the tumour, had pulled the peritoneum around the internal abdominal ring up against the tumour. This curious displacement, puzzling for the moment, was of course due to the manner in which the tumour had grown from behind and below to the right of the bladder upwards. I cut a flap of peritoneum on the front surface of the tumour cut a flap of peritoneum on the front surface of the tumour

FIG. 2.

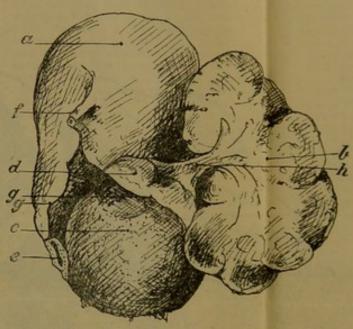


Uterus and tumour, Case 2, seen from in front. a, Body of uterus. b, Fibroid, mainly intracervical, which filled and blocked the pelvis and invaded the right broad ligament. c. Portion of cervix stretched over the fibroid and displaced to the left side of the pelvis. c', Site of amputation through supravaginal portion of cervix. d, Foctus. c, Canal of the cervix. f, f, Ovaries and tubes. g, Placenta and cord. h, Membranes. i. Portion of tumour (b) which was enucleated from the right broad ligament. j, Peritoneum, showing limits of enucleation.

which I then enucleated; it felt as though in a state of cystic degeneration. Then the uterine vessels were reached and secured. The flap was sewn over the stump after I had amputated the uterus, then the abdominal wound was closed. Recovery was uneventful and the patient was in good health in August, 1902. She had completely regained her strength.

Dr. Cuthbert H. J. Lockyer took charge of the specimen prepared by Kaiserling's method. Its appearances are demonstrated in the illustration (Fig. 2) made by Dr. Roberts. The anterior part of the uterine wall has been removed, displaying the fœtus (a female) in the amniotic cavity, and the front part of the tumour has been cut away, showing its substance uniformly fibrous without any cysts. It is necrobiotic. It has been replaced in its capsule whence, as above explained, I had enucleated it during the operation. The fundus and upper part of the uterus are quite free from fibroid growths. The usual relations are very distorted, hence it is impossible to determine the precise site of origin of the tumour in the uterine walls, but the growth certainly arises in part from the lower segment and is also in part cervical. The supra-vaginal portion of the cervix, very thick, has been deflected out of the vertical line to the left. The

FIG. 3.



Uterus and tumour, Case 3, taken before the uterine cavity was opened to demonstrate the fœtus; view frœn in front with uterus slightly rotated to the right. a, Fundus of the uterus. b. Large, hard, pedunculated fibroidabove the pelvis. c, d, Other fibroids, chiefly in the cervix. c. Cervix cut across at operation. f, Fallopian tube. g, f, Divided peritoneum, showing limits of enucleation. h. Pedicle of large fibroid (b). (Museum, Royal College of Sergeons of England.)

body of the uterus, softer than the tumour, was pressed to the left and thus compressed the cervix against the fibroid. It is clear that the fœtus was completely cut off from the

It is clear that the feetus was completely cut of from the pelvic cavity by the tumour.

CASE 3. Newly married noman, aged 30 years; hypogastric pains early in the first pregnancy; pedunculated fibroid in the abdomen and large fibroid in the lower segment posteriorly, involving the cervix and opening up the broad ligament; hysterectomy at the fourth month; recovery.—

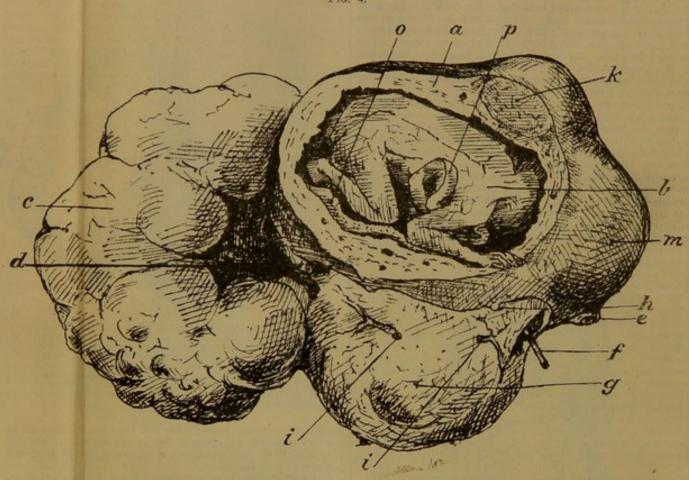
A woman, aged 30 years, who had been married four months, was sent to me on March 22nd 1902, by Mr. R. M. Boodle of Sittingbourne. She informed me that she had married in November, 1901, and the last period R. M. Boodle of Sittingbourne. She informed me that she had married in November, 1901, and the last period was seen on Dec. 13th to 17th. On Feb. 7th there was a slight show of blood. For two months the patient had suffered from pains in the hypogastrium. There was also much retching which continued through the day. She rightly believed that she was pregnant. Mr. Boodle detected a large tumour intimately connected with the uterus, whilst he found the os soft as in pregnancy. The patient was a robust young woman. The pulse was slow and strong, the temperature was normal, and the appetite was and strong, the temperature was normal, and the appetite was good. The vomiting and retching had increased since the pregnancy, but though her appetite had always been good milk or soups often made her sick. The breasts were fairly large; there was no oozing from the nipples on pressure. There was a hard, oval swelling in the middle of the abdomen, chiefly to the left, beginning a few inches above the pubes and extending almost to the left ribs. A soft body rose about three inches above the pubes, chiefly to the right.

It was separated by a shallow groove from the hard swelling on the left above, but immediately to the left and on its own level lay a yet harder swelling, separated from the upper swelling by a deep groove. The upper hard swelling was freely moveable. The cervix was continuous with the lower hard mass on the left and with the soft mass. The os opened under the hard mass, part of which bulged in front of it and to the right as well as to the left. The masses were clearly united; the softest swelling—that is, the portion of the uterus including the fœtus—was cut off from the pelvis by the hardest swelling which above the pelvic brim lay entirely to the left of the uterine cavity. Dr. Roberts agreed with me, in consultation, that there was pregnancy with a fibroid uterus and that if left alone distension would result rendering delivery through the vagina impossible. There were two alternatives—hysterectomy at once or Cæsarean section at term. The matter was thoroughly explained to the patient and she dreaded waiting till term;

the edge of the posterior flap, and in uniting by suture the layers of the broad ligament I turned in the cut surfaces of the tubes with the ligatures. Both ovaries were well developed. There was no shock and flatus passed freely at the end of 24 hours. Beef-tea enemata were given for two days as the patient had a strong distaste for barley-water or any fluid nourishment. On the fourth day the bowels were freely opened. There was no further trouble and convalescence was speedy. The patient was in good health in August, 1902.

Dr. Roberts took charge of the specimen, closing the cut surface of the uterus with a suture lest the organ should contract and expel its contents. The specimen was sent to the Museum of the Royal College of Surgeons of England and Mr. S. G. Shattock made of it an instructive preparation shown in the accompanying illustrations made by Dr. Roberts (Figs. 3 and 4). They show that the pedunculated growth was in no way obstructing the development of the uterus nor

FIG. 4.



Uterus and tumour, Case δ , seen from behind, with uterine cavity opened to display foctus. a, Uterus, showing several irregular fibroids in its walls (k, m). b, Foctus, with head displaced by fibroid (m). c, Pedunculated hard fibroid springing from the left side of the uterus. d, Left Fallopian tube. c, Right Fallopian tube. f, Gibss rod passed into the canal of the cervix. g, Large fibroid, enucleated part displayed. h, Divided peritoneum, showing limits of enucleation. i, i, Large versels. k, m, Interstitial fibroids. o, Edge of placenta. p, Umbilical cord.

it was clear, too, that the uterus was ill-fitted for pregnancy and likely to give trouble, even if it could be emptied of its contents. We decided, therefore, on hysterectomy and I determined to spare one or both ovaries if possible.

I operated on April 1st. The patient was kept in the Trendelenburg position throughout the operation. As I expected, the upper hard growth was a pedunculated subserous fibroid, the soft swelling was the uninvaded portion of the uterus, and the lower growth was a more sessile fibroid which was beginning to fill the pelvic brim. The lower growth had invaded the left broad ligament and the peritoneum of the vesico-uterine fold. I saved both ovaries, tied both round ligaments separately, divided the right broad ligament, and then made the anterior peritoneal flap. On turning it down I was able to enucleate the lower fibroid. A flap of peritoneum and muscular tissue was made posteriorly and then the uterus was amputated. The foctal membranes were exposed but were not ruptured. The uterine arteries, which could only now be reached, spurted and were secured. Then I sewed the anterior peritoneal flap over

could it have interfered with labour, whilst the lower growth involved the cervix and posterior part of the inferior segment of the uterus. It extended into the left broad ligament; the limits of the peritoneum (Fig. 3, g, g, Fig. 4, h) are shown in the illustrations. It will be seen at a glance that the growth burrowed deeply into the pelvis and that it would have completely obstructed labour. The condition of the fœtus was remarkable. It was jammed between the big growth in the lower segment which had pushed its body up and a hard interstitial growth on the right which had distorted its head. Its subcutaneous veins showed much dilatation.

I have endeavoured to explain why immediate hysterectomy seemed to be the best course in all these cases. Myomectomy would have been impracticable. Pushing up the fibroid is a dangerous practice. A glance at Fig. 1 will demonstrate the peril of any attempt to press a hard, solid fibroid upwards when a soft gravid uterus lies above it. Such manipulations in the dark are unsurgical. We can never be absolutely certain that the pelvic tumour is a

fibroid. Even if there be myomata in the uterus above the pelvis we must not forget that a hard ovarian tumour may develop and block the pelvis, but a tense ovarian cyst pressed down in the pelvis by a gravid uterus may feel very hard, as in a case which I reported in The LANCET last spring. The dangers of pressing on a cyst are evident. Franta reports cases where the pelvic tumour obstructing pregnancy or labour proved to be a hydatid.8 As bimanual palpation of the pelvic mass is impossible when there is a gravid uterine cavity in front of it we can never be sure what we are attempting to push out of the pelvis.

A CASE OF FULMINATING APPENDICITIS WITH GENERAL SEPTIC PERITO-NITIS; OPERATION; RE-COVERY.

By J. HOWELL EVANS, M.A., M.B., M.CH. OXON., F.R.C.S. ENG.,

SENIOR DEMONSTRATOR OF ANATOMY AT ST. GEORGE'S HOSPITAL.

THE following case appears to deserve recording both on the grounds of its intrinsic interest and on account of the excellent illustration which it affords of certain main guiding principles which are essential to the successful treatment of a peritoneal infection. It also affords an opportunity of putting forward certain factors associated with this lesion which do not appear to have received very much attention hitherto.

A well developed, markedly intelligent, and extremely well cared for child, aged four years, the son of a medical man, previously in good health, complained of pain in his right side on the afternoon of Sept. 25th, 1902. Though the pain was present the child's condition was but little altered until, after midnight of the 26th, he vomited. A neighbouring practitioner finding little localised pain and no tumefaction or rigidity of the abdominal wall, associated his condition with a gastroenteritis rather than with any appendicular lesion. Restless-ness, vomiting, thirst, and a desire for the local application of ice to cool the lower part of the right side of the abdomen continued. Dr. F. W. Burton-Fanning saw the child at noon on the 27th. By this time I had been telegraphed for, and finding the pain somewhat localised, with slight rigidity over the right inguinal region accompanied by considerable febrile disturbances, advised certain necessary preparations for a probable operation. A few hours later, when I saw the patient with Dr. Burton-Fanning, the condition was briefly thus. The child's face was flushed and the aspect distinctly that of acute subdiaphragmatic serous inflammation, the twitching upper lip being drawn up in such a way as to show the teeth, with an expression of anxiety and nervous unrest accompanied with precautionary expiration. The temperature was 103.4° F. and the pulse was 120. Intelligence was quite clear and the pain was localised in the right inguinal region, where tenderness corresponded to the point of the pain. There was rigidity of the lowest segment of the right rectus abdominis muscle, but no localised tumour or dulness. Per rectum considerably more resistance was felt in the right upper portion of the pelvis.

An operation was performed on Sept. 27th. An incision was made in the usual manner, but at a slightly lower level and was carried through the superficial structures and obliquus externus. The other muscles of the abdominal wall were divided or separated in a plane at right angles to the were divided or separated in a plane at right angles to the superficial structures. Upon opening the peritoneal cavity a quantity of very offensive opaque fluid escaped. The vermiform appendix was found, anchored by its mesentery (mesenteriolum), to be floating in this fluid which welled up from the pelvic and perinephric regions. The mesenteriolum was ligatured so that the vessels containing within its layers were definitely secured and the appendix was removed distal to a single constricting basal ligature. After very gentle (from six to eight inches pressure) but copious irrigation had been carried out the cavity

Ovarian Tumours and Ovariotomy during and after Pregnancy,
 THE LANCET, Feb. 8th, 1902, p. 356.
 Kystes Hydatiques pendant la Grossesse, l'Accouchement et les Suites de Couches, Annales de Gynécologie et d'Obstétrique, March, 1902.

was gently swabbed out and the condition was further investigated. Adhesions are invariably formed, though occasionally to a very slight degree; so in this case the absence of any tendency of the intestines to bulge into the wound was taken as clinical evidence of this variety of nature's self-protecting endeavours. Accordingly three drainage-tubes of large calibre were introduced respectively down into the pelvis, up towards the right kidney, and on to the sacro-iliac synchondrosis, and in their tracks were inserted gauze drains. The wound was then partly closed and secondary sutures were passed in readiness. The usual absorbent dressings were applied and a rectal tube was introduced. The child had by this time recovered from anæsthesia and shortly afterwards passed some flatus.

Subsequently to the operation, from the first to the tenth

hour, copious drinks of warm water, barley water, and diluted whey were given. Vomiting occurred at intervals and diuresis became established. A saline enema (eight ounces) was given but shortly returned and was followed in an hour by three small but very hard scybalous masses. The child dozed, waking to vomit or to relieve his thirst at longer intervals. From the tenth to the twentieth hour the facial aspect described above persisted, the abdomen was resistant all over, and the pulse continued almost imperceptible. Another enema (soap and water) succeeded in carrying away an extremely offensive collection of pale-coloured fæces. intra-muscular injection was given consisting of one-sixteenth of a grain of acetate of morphia, one minim of tincture of digitalis, two minims of solution of strychnia, and water to one drachm. The child slept for an hour and appeared to be temporarily improved, but there still remained the unfavourable signs of restlessness, facial aspect, and an imperceptible pulse at the wrist. Food was now administered in the form of three ounces of sugar, half a drachm of salt, two ounces of gelatin, and water to one pint, five ounces being given at a time. About 20 hours after the operation the child, whose condition was growing worse, vomited about one and a quarter pints of black coffee-ground vomit—usually a sign premonitory of an impending fatal issue. Hereupon the dressings were removed, the drainage-tubes were taken out, and the wound was opened in its entirety; all adhesions were thoroughly broken down and the whole abdominal cavity was copiously irrigated by a contrivance which was extemporised from rubber tubing and which directed all fluid towards the wound. Large sheet-like gauze drains were placed in the direction of the liver and of the left kidney and to the bottom of the recto-vesical pouch. An intra-muscular injection was administered, consisting of one-sixteenth of a grain of acetate of morphia, one minim of tincture of digitalis, two minims of solution of strychnia, and water to one drachm. The large gauze drains were replaced after three hours by tubes with small intertubular gauze drains and at intervals of from three to four hours the child received a nutrient enema as follows: four cunces of sugar, one drachm of saline solution, four ounces of gelatin, and water to one pint, a half pint being given every four hours. A hypodermic injection consisting of half a minim of tincture of digitalis and one minim of solution of strychnia was also administered every two hours. For the greater part of the next ten hours the child slept, waking at intervals, when his thirst was quenched, and from this time onwards he progressed, slowly at first, but subsequently rapidly, to recovery.

An examination of the appendix by the naked eye showed it to be thickened throughout and to be four inches long. Its distal end was very much enlarged; it was perforated and contained a mass a little larger than a cherry-stone on the proximal side of which a fig seed was found. Microscopically all its coats were thickened and in the intercellular spaces numerous undifferentiated micro-organisms were to be seen. There was also thrombosis of the small veins. The enterolith consisted chiefly of epithelial cells, mucus, and microorganisms.

The matters calling for explanation here are (1) the obstruction by the fig seed; (2) the formation of the enterolith; (3) the cause of the perforation and fulmination; (4) the thrombosis of the vessels; and (5) the scybala which were passed per rectum. 1. As to the obstruction, eight days prior to the attack the child had eaten some stewed figs from which the seed which was found had evidently come and this produced a certain amount of obstruction to the exit of the natural secretion of the epithelium. 2. This irritation, associated with micro-organisms, produced inflammatory changes which in the earlier stage of hyperæmia



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