

(a)—A Case Of Uterine Fibroid Complicating Pregnancy

Case Report:

Regd. No. 3942. L.K.T. Chinese -- Age 38 years.

Booked. Admitted 1.3.56. Gravida 2.

Para. 0.

L.M.P. 8.6.1955.

E.D.D. 15.3.1956.

Gynaeco-Obstetric history:

Menarche — 15 years.

Menstrual periods regular — 30 + 5

Flow moderate; $\frac{7}{7}$ days

clots on and off during the last 5 years.

Dysmenorrhoea since puberty for 2-3 days before onset of flow.

Married 20 years. Came to Singapore from China 9 years ago, but only joined her husband 1 year ago.

Had 1 abortion at 3 months on 23.2.1955.

Past Medical History:

Nil of note.

History of Present Pregnancy:

(1) Dull pain, off and on in the left side of the abdomen from the 2nd to 4th month of pregnancy.

(2) Slight headache during the 6th month of pregnancy.

(3) Weakness of legs from the 7th month onwards.

(4) Swelling of legs for the last 2 weeks.

No giddiness or blurring of vision.

Appetite good.

Bladder/bowels — no change.

Physical Examination:

She was first seen in the antenatal clinic on 21.11.56 i.e. at 24 wks. gestation, and examination revealed the following findings:—

General condition good. Not anaemic. Afebrile. B.P. 120/84.

Head and neck—n.a.d.

Heart and lungs — clinically clear.

Obstetric examination:—

Fundus—size of 24 wks. F.P.F. Soft mass, size of a football with a smooth surface palpable in the left flank. The mass was not tender and appeared attached to the side of the uterus. (The patient herself was not aware of the existence of the lump).

X-Ray suggested that there was a pelvic mass to the left of the foetal skull.

Provisional Diagnosis:

Pregnancy with left ovarian cyst, which had probably undergone slow torsion.

Management.

In view of the fact that hers was a precious baby and that she had been free from abdominal pain for 2 months, operation was not advised lest she aborted.

She was followed up weekly in the antenatal Clinic, and the growing uterus was thought to be pushing the cyst to the left and superiorly.

At 30½ wks. gestation she developed signs of mild toxæmia and was admitted from 5.12 to 11.12.55 for rest and sedation. After discharge she was given Luminal gr. 1 t.d.s. and Diamox as an outpatient. The toxæmia, however, became more marked on her last two visits i.e. 21.2 and 28.2 56 i.e. 38 wks. gestation and admission was again advised.

Examination on Admission:

Her B.P. was 152/110 and there was marked oedema of the legs. Examination of the fundi revealed negative findings. Size of the uterus was 38 wks. Vx. L.O.A. Hd: floating, F.H.H. 140/min. The lump in the (L) flank had remained the same size.

Investigations:

Urine (Catheter specimen) 2.3.56 Alb. + P.C. 1-2, E.C. 3-4. R.B.C. 8-10. M.O. +

Blood 5.3.56 TR = 4.59 m. Hb. 88%. Leucocyte count 5,100; D.C. F.69; L.24; M.4; E.3%.

Blood urea—18 mgm. %.

X-Ray Abdomen.

Single foetus L.O.A. position. Head deflexed.

No abnormal calcification.

Further Management:

1. Rest in bed.
2. Salt-free diet.
3. Diamox tabs. 2 stat and 1 b.d.
4. Luminal gr. 1 t.d.s.

There was only slight improvement of the toxæmia with therapy. B.P. varied from 130/90 — 170/100.

On 9.3.56 a **Lower Segment Caesarean Section** was performed under general anaesthesia. Indications: (a) precarious baby. (b) Pre-eclamptic toxæmia.

Live female infant delivered, weighing 6 lbs. 2 ozs. After closing the uterine

wound and suturing the uterovesical peritoneum, the abdomen was explored for the ovarian cyst but none was found. Instead the mass in the (L) flank was found to be an intramural uterine fibroid, attached to the left side of the fundus of the uterus. The surface of the fibroid was smooth and slightly more bluish than that of the uterus.

The abdomen was closed without further operative interference.

The post-operative phase was uneventful, and the fibroid is involuting with the rest of the uterus.

Final Diagnosis:

Uterine fibroid undergoing degeneration during pregnancy.

(b) A Case Of Uterine Myoma

Reg: No. GY/2955/B/55. T.S.H. Chinese.

Age 31 years.

Admitted — 20.11.1955.

Chief Complaint: Menorrhagia.

History of Present Complaint:

Excessive menstrual flow with clots clots for the last 3 months, each lasting about 10 days.

Menstrual history:

Menarche at 13. M.P. — regular lasting 4-5 days each.

L.M.P. — 8.11.1955.

Obstetric history:

Para 5 + 2 abortions; oldest — 11 years old.

youngest — 1 year old.

Past history:

Nil of note.

Clinical examination:

Young, healthy, not anaemic.

Heart)

nil of note

Lungs)

Abdominal palpation:

Firm central mobile swelling, size of 20 wks. pregnant uterus.

No external ballottement; no foetal parts felt.

Vaginal examination:

(1) Cx. healthy.

(2) Uterus enlarged by a firm swelling to size of 20 wks. pregnancy, mobile.

(3) Fornices — nil of note.

Clinical diagnosis:

Uterine fibroid.

Laboratory Investigation:

TR — 4.01 m.

Hb — 75%

TW — 11,700; P-83%; L-11%; M-3%; F-3%.

Blood urea — 15 mfl. %.

Urine — alb. nil; P.C. — 4-8; E.C. 2-3; no casts.

Management:

As patient is desirous of having more children it was decided to do a laparotomy and myomectomy if indicated.

Operation on 21.11.55:**Found at laparotomy:**

(1) Uterus enlarged by an anterior fibroid to size of 20 weeks pregnancy.

(2) Adnexae—nil of note.

Done: Myomectomy was done by an anterior incision in the uterine wall; intramural fibroid shelled out easily. Uterine cavity was entered into and no other fibroid was found. Uterine wound was repaired with through and through sutures.

Post-operative: Uneventful.

Discussion:

DR. Y. SALMON: Presented the first case.

DR. N. N. LING: Presented the second case.

DR. C. S. OON: Read a commentary on the pathology of uterine fibroid.

Fibroids are the most common tumours affecting the human body and according to Novak, they are present in 20% of all females over 30 years of age.

The tumour arises from uterine muscle and at an early stage is a pure myoma. According to Robert Meyer, they arise from unripe muscle cells usually lying dormant in muscle bundles in the vicinity of uterine blood vessels. Soon, however a fibrous stroma is found and the texture of the tumour becomes harder. Thus the term "fibroid" is not strictly correct.

The stimulus causing the growth of these tumours, is unknown but attempts have been made to relate their origin and growth to the action of oestrogens. Wilson (1937) succeeded in producing small sub-peritoneal fibromyomata in guinea-pigs after injecting oestrogens into the female for periods of 2-10 months and the tumours, while mostly showing a preponderance of fibrous tissue showed some muscular tissue and a hyperplastic endometrium, but at present, there is no evidence to show that women with fibroids are secreting excessive amounts of oestrogenic hormone. However, with accurate chemical estimation of urinary oestrogens, this question may soon be settled.

Since fibroids grow only during the menstrual life, there must be some close relationship to ovarian function. It has been suggested that the connexion is not hormonal in the sense that the tumour is directly stimulated by the ovarian secretions, but is simply due to the vascular conditions of the uterus. Absence or withdrawal of oestrogens is associated with a poor vascular supply to the uterus. Morbid Anatomy:

Fibroids vary in size from tiny nodules to large masses filling the whole abdomen. They are usually multiple in the body of the uterus and solitary when found in the cervix. Tumours of the body of the uterus may be subserous, interstitial or submucous and in most cases, all types will be found. Subserous fibroids may develop a pedicle and this may undergo torsion. If the pro-

cess is slow, mental adhesions may bring to the tumour a new blood supply. Lateral subserous growths may burrow out between the layers of the broad ligament and cause serious distortion of the ureter, or may even form large retroperitoneal masses which give rise to considerable technical difficulties at operation. Interstitial fibroids may not distort the apparent shape of the uterus, and thus a single fibroid at the fundus may easily be missed. The submucous fibroid gives rise to menorrhagia before it has attained any great size, and may easily escape the exploring curette or sponge forceps. Sometimes, it may develop a pedicle and gradually be extruded through the cervical canal as a fibroid polyp. If the pedicle is broad and attached to the uterine fundus, then inversion of the uterus may occur. The endometrium covering such a polyp soon becomes infected and consequently a fibroid polyp is usually ulcerated and sloughing and such a mass may be mistaken for a cervical cancer.

A cervical fibroid is more often found on the posterior than on the anterior lip. It is unlikely to cause symptoms until it has reached the size of about a foetal head. The urethra has become elongated and the bladder an abdominal organ and sudden urinary retention may well be the first symptom.

The blood supply of a fibroid is always somewhat precarious. At first the small vessels enter and leave the tumour circumferentially through the layers of compressed uterine muscles forming the false capsule. As the tumour grows, one leash of vessels is likely to hypertrophy and form the main blood supply. During pregnancy because of Braxton Hick's contractions, or during the involution of the puerperium, there may be a slight rotation of the tumour within its capsule. This may lead to an infarction of the tumour following the venous return being cut off. This condition is not uncommon and is known as red degeneration or necrobiosis. Apart from pregnancy, the blood supply of a fibroid is seldom adequate so that degeneration is likely to occur.

Fibroids when cut open exhibit a characteristic whorled appearance. On examination, most fibroids will show areas of hyaline degeneration and two things may happen when this type of degeneration occurs. Cystic areas may form or calcium salts may be laid down. When

cystic degeneration occurs, it may be mistaken for a pregnancy or ovarian cyst. Fatty degeneration is a peculiar pathological curiosity and in a naked-eye specimen may be considered sarcomatous. In red degeneration, when the cut surface is examined, it is found to have a reddish homogenous colour which is quite unlike the pale colour of a healthy tumour. Sarcomatous degeneration is the most sinister of all the secondary changes of fibroids, and the incidence is about 0.5 to 1.0%. The degree of malignancy varies greatly and according to Kellar (1953) only 10% of such patients survive more than 5 years after operation.

DR. T. K. CHONG: Next commented on the treatment of fibroid tumours in general.

Asymptomatic Fibroids:

Asymptomatic fibroids should be kept under careful observation especially so when they are small and in a young sterile woman. A fair size intramural or submucous fibroid may well be a factor in sterility and a myomectomy may be rewarded with a subsequent pregnancy.

Evidence of kidney damage seen in the pyelogram may be the deciding factor in making up one's mind to operate on a patient with an entirely fair-size asymptomatic fibroid.

Symptomatic Fibroids: It will generally be agreed that symptomatic treatment can never be curative. Surgery is the correct treatment for fibroids giving rise to symptoms

Surgical Treatment:

Surgery is strongly indicated:

- (1) when the tumor exceeds the size of a cricket ball.
- (2) when it is increasing rapidly in size or is accompanied by pain or irregular bleeding.
- (3) when excessive menstrual haemorrhage is present and there is increasing anaemia.
- (4) when retention of urine is a symptom.

Myomectomy is the operation of choice in women under 40 years of age with a desire for child-bearing. Only pedunculated or almost pedunculated tumours or extruding polypi are suitable for vaginal myomectomy. Usually the abdominal route is chosen. Bonney has proved that the actual number of tumours need not influence the surgeon against myomec-

tomy. Malignancy of the uterus or ovaries or tubal disease contra-indicate myomectomy.

In Bonney's series of myomectomy 38% were expected to conceive, the recurrence rate was 2-3%. Bonney reduced the recurrent rate of menorrhagia by routine "abdominal curettage."

Hysterectomy: Hysterectomy is always more advantageous in the sense that it will certainly cure all symptoms and exclude the subsequent development of uterine malignant disease.

Hysterectomy may be by the vaginal route. The association of small tumours with a uterovaginal prolapse makes the operation of vaginal hysterectomy with concomitant repair, the ideal procedure.

Abdominal hysterectomy in the treatment of large fibroids is as a rule a most satisfactory and safe operation.

Treatment by irradiation: This method of treatment has fallen in popularity of recent years mainly because after such treatment atrophic changes in the vagina are more common; frigidity is frequent and acute menopausal state induced is especially trying for all patients under 45 years old. It is contra-indicated when the tumor is large or when it is associated with malignant changes or inflammatory disease in the adnexa, or when the tumor is submucous.

X-ray menopause can be induced by the administration of 700 R units delivered to the ovaries. A radium menopause may be induced by the insertion into the uterine cavity of 50 mgm radium for 48 hours.

Pregnancy complicated by fibroids: The basic principle in the management of pregnancy complicated by fibroids is to leave them alone whenever possible, and to give them careful supervision. The complication of red degeneration especially towards the second half of pregnancy and the puerperium are nearly always mild and respond well to expectant treatment.

It is surprising how lowly situated tumors tend to be pulled up out of the pelvis as pregnancy advances. Fibroids enlarge with the pregnancy, and after delivery they involute with the uterus.

But operation during pregnancy or labour may be indicated for several reasons:—

1. When a single posterior fibroid lies in the pelvis and will certainly obstruct delivery or is producing urinary obstruction.
2. Torsion of a subperitoneal tumour or haemorrhage into the growth may demand immediate laparotomy.
3. Usually when labour is obstructed by a cervical fibroid. Caesarean Section is necessary.

When torsion of a pedunculated fibroid occurs, it should be removed but the temptation to remove other fibroids by myomectomy if present should be resisted for haemorrhage is considerable and difficult to control. Even after Caesarean Section, the removal of fibroids should be left to a later date. Caesarean hysterectomy is rarely deemed advisable unless the tumors are very large or multiple and the patient is past 40 years old, and even then every consideration should be given to the wishes of both wife and husband.

DR. C. S. SEAH: Said that there was always difficulty in interpreting malignancy in fibroid tumour as it varied not only with the experience but also with different pathologists. On the question of the association of fibromyomata with ovarian or endometrial carcinoma, the incidence was not necessarily increased by the presence of myomata. Kelly et others gave the incidence of malignant changes in fibroid as 0.2%. The difference between this figure and that given by Dr. Oon (0.5 to 1%) was that women turned up earlier for treatment in the first series.

DR. A. C. SINHA: Asked if there was any definite relationship between hyperoestrinism and fibroids.

DR. C. S. SEAH: Replied that according to Novak, experimental work had shown that the tumours produced by hyperoestrinism were not the same as fibromyomata; the former contained more fibrous tissue and regressed when oestrogen was withdrawn. Furthermore the tumours were not confined to the uterus but occurred all over the peritoneal cavity.

PROF. B. H. SHEARES: Stated that in experiments by Novak, large doses of oestrogen were given to sexually mature castrated guinea-pigs; the tumours formed were entirely of fibrous tissue with very

little muscle fibres. c.f. Wilson (1937) as quoted by Dr. C. S. Oon. As fibromyomata in humans occurred during the sexual epoch of life, oestrogens were blamed for being the cause; further when oestrogens were withdrawn fibromyomata regressed. Heredity also played a part in the causation of fibroids.

It was Robert Meyer who described the origin of fibroids from "muscle nests;" Otto Schwatz wrote that fibromyomata of the uterus had their origin in the tunica media of blood vessels.

DR. A. C. SINHA: Commented that certain races such as the Negroes were more prone to fibroids.

PROF. B. H. SHEARES: Said that one in four women after the age of 30 years had fibroids, and as more and more women sought medical advice nowadays, this disease was presenting us with new problems in differential diagnosis, treatment and psychosomatic medicine. It was important to know at operation the gross features of malignant changes in a fibroid. If the fibroid was shelled out and found to be hard and shining, then it was not malignant; if soft and pultaceous then it was suspicious of malignancy. The incidence of malignant change in fibroid was one in 200.

Fibroids delayed the onset of menopause. The incidence of endometrial carcinoma was three and a half times higher with fibroids. If there was delayed menopause (patient still menstruating at 47/48 years) and a fibroid was present, the treatment was not conservative but radical.

Rupture of myomectomy scars if the patient subsequently became pregnant, occurred in 1.5% of cases, according to a Scandinavian worker. If during myomectomy the uterine cavity was entered, then there was a greater chance of rupture of the scar during subsequent pregnancy. Care must be exercised not to interfere too much at the utero-tubal junction as this might lead to a stricture and tubal pregnancy.

DR. S. T. JAMES: Discussed the main symptoms of fibroids. They were:

- (1) Tumour.
- (2) Pain.
- (3) Menorrhagia.
- (4) Possible vaginal discharge.
- (5) Pressure symptoms.

These symptoms varied according to the age of the patient and the sites of the tumour.

If the tumour was *submucous*, presenting symptom tended to be menorrhagia. The bleeding was the result of an increase in size of the uterine cavity and hence the bleeding surface. Further the endometrium with fibroids was hyperplastic. The bleeding was usually in the form of menorrhagia—rarely intermenstrual

If the tumour was *intramural* degenerative processes tended to occur.

If the tumour was *subserous* the main complaint was one of bulk.

Pain as a symptom was probably the result of torsion of a pedunculated fibroid or as a result of infection or degeneration in the fibroid. Partial torsion of the whole uterus occasionally occurred and was the cause of pain. Pain also was the presenting symptom of malignant change in the fibroid. He had not seen a case of malignant change here. Degenerative processes were not as commonly seen as described in text books. He commented on the frequent association of chronic pelvic inflammatory disease (chronic salpingitis etc.) with fibroids.

DR. A. C. SINHA: Said that most fibroids seen here were asymptomatic.

DR. J. W. F. LUMSDEN: Suggested that since pregnancy prevented fibroids, it would appear that fibroids occurred because the uterus was not being used. He therefore suggested early marriage and pregnancy as prophylaxis.

PROF. B. H. SHEARES: Pointed out that patients with submucous fibroids were not likely to become pregnant, and if they did so, they were liable to abort early.

DR. A. C. SINHA: Said this depended upon the site of the fibroid. In all cases of fibroids, only one third were sterile. He agreed that high fecundity was a deterrent to fibroid occurrence and therefore suggested that girls should marry earlier than what they were doing now.

DR. J. W. F. LUMSDEN: Discussed the effect of fibroids on pregnancy and vice versa. Fibroids were the cause of infertility, but if pregnancy did occur and the myoma was invading the uterine cavity, then abortion was likely to occur. If pregnancy proceed, abortion or premature labour might occur at any time. If the

pregnancy proceeded to term, mal-presentation of the foetus might be a complication. If the fibroid was a cervical one it might prevent engagement of the head during labour. After delivery there was a danger of post-partum haemorrhage, and also of partial placenta accreta if the placenta was situated over the site of the fibroid.

In turn, pregnancy might interfere with the fibroid—red degeneration, torsion of a sub-serious fibroid might occur.

DR. S. T. JAMES: From his experience of cervical fibroids complicating pregnancy preventing delivery of the head, he thought that a classical section rather than a lower segment section was the better method of approach.

PROF. B. H. SHEARES: Enumerated the different methods of treatment as follows:—

- (1) Conservative.
- (2) Myomectomy — vaginal/abdominal.
- (3) Hysterectomy -- vaginal/abdominal.
- (4) Bilateral oophorectomy.
- (5) Radiation—X-Ray Radium.

He recommended the book, Bonney's "Extended Myomectomy" which contained good diagrams and some finer points in myomectomy.

In abdominal myomectomy it was important to make the incision on the anterior wall of the uterus because it was possible to peritonize the wound in this situation, and the gut was not so likely to stick on to the scar and cause intestinal obstruction at a later date. If the fibroid was on the posterior surface of the uterus, the surgeon should also use the anterior method of approach and preserve the peritoneum on the posterior surface of the uterus. One should not open into the uterine cavity for fear of rupture of the uterus during subsequent pregnancy. After myomectomy, plastic reconstruction of the uterus had to be done—the uterus had to be made one and a half times the normal size because some involution did occur. The position of the Fallopian tubes and round ligaments helped in getting symmetry.

Vaginal myomectomy was usually done for a submucous fibroid—this had a pedicle and presented at the external os or in

the vagina. One had to be sure that the uterus was not inverted, for in such a case one might cut into the uterine wall and open into the peritoneal cavity while doing the myomectomy. For the uterus to be inverted the pedicle had to be attached to the fundus of the uterus. If it was not easy to get at the top of the pedicle then the fibroid should be enucleated, or morcellation or twisting off of the fibroid should be done.

Sarcomatous degeneration was more likely to occur in submucous fibroids. Also more than one fibroid might be present.

Vaginal myomectomy was usually an emergency measure to save the patient from bleeding.

According to Winters 40% of all women with fibroids had some condition affecting the heart—"fibroid heart."

DR. A. C. SINHA: Commented that in the

reconstruction of the uterus after removing a big fibroid, the redundant tissue was so great that it was difficult to reconstruct without distorting the uterus and the utero-tubal junction.

Summing up the treatment, he said that within the child-bearing age the treatment was myomectomy. In the hands of an inexperienced surgeon, or after the child-bearing age, the treatment was hysterectomy. Vaginal hysterectomy was not advisable with a fibroid larger than a fetal head.

Total abdominal hysterectomy or a Pan-Hysterectomy depending upon adnexal pathology was the best form of treatment.

Radiation acted by knocking out the ovaries. The drawback was that if the fibroid was too large, radiation might not be able to reach the ovaries.

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