# THE MYOMATOUS UTERUS COMPLICATED BY PREGNANCY

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THE purpose of this presentation is to report a series of unusual clinical problems in which uterine myomata were complicated by pregnancy. Examples shown here represent some of the more unusual complications occurring in different periods of pregnancy. The myomata in this series were selected from a study of 8,968 patients delivered at the new George Washington University Hospital and 41,052 patients delivered at the Gallinger Municipal Hospital. In this survey of 50,020 deliveries, no attempt has been made to arrive at a statistical analysis. Previous reports have indicated that the incidence of uterine myomata in pregnancy varies from 0.3 to 7.2 per cent.[1, 2]

During pregnancy many small myomata may be discovered, but usually only those 8 cm. or more in diameter become clinically significant. Serious complications of the pregnant myomatous uterus occur more commonly in colored than in white patients, and more often in elderly primigravida than in any other age or state of parity. In practically all instances, large or multiple myomata were incorporated in the uterus prior to conception.[3, 4]

It is usually stated that uterine myomata complicate pregnancy. In reality the myomata precede pregnancy and in many instances they would have remained asymptomatic throughout the life of the patient had not pregnancy altered the physiology of the uterus and its associated tumors. Thus pregnancy causes changes in myomata, which in turn may complicate fetal development and delivery. While myomata usually increase in size during the first seven months of gestational hypertrophy, it is doubtful that any true proliferation of tumor tissue occurs.[5] Enlargement of the myomata is largely due to edema. Histologically such tumors show only edema and hyaline degeneration.[6, 7] Degenerative processes resulting from chronic alteration in venous return occur, for the most part, in tumors which are embedded in the uterine wall, whereas acute circulatory strangulation is found only in twisted pedunculated tumors. Because intramural and subserous myomata are well encapsulated, they tend to maintain their shape and thus become more prominent as the uterine wall thins out with advancing pregnancy.

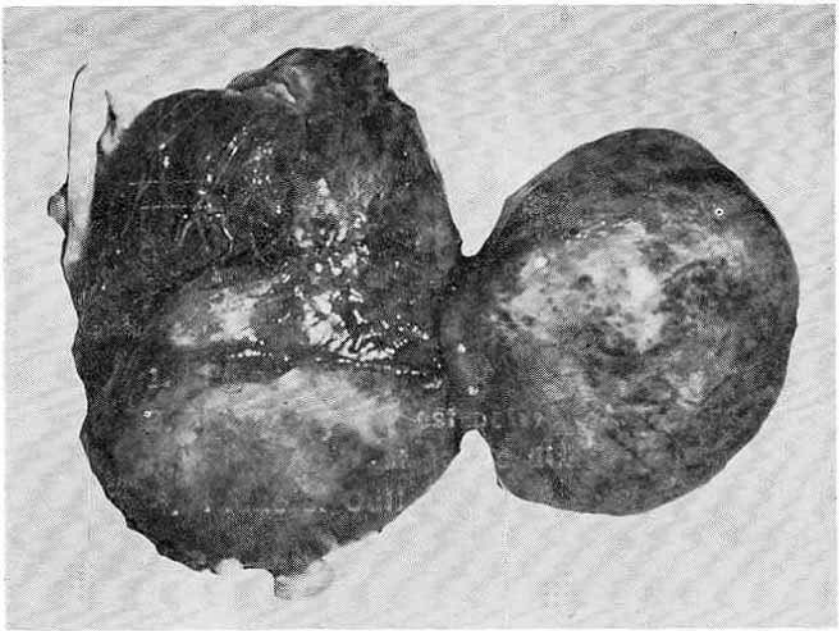

Fig. 1. L. M. (G.M.H.-B59542), 34-year-old, colored, primigravida, in the 16th week of pregnancy, was admitted on 10-16-42, with acute lower abdominal pain. She had been told many years before that she had "a pelvic tumor." The preoperative diagnosis was that of a twisted ovarian cyst in conjunction with pregnancy. Exploratory laparotomy revealed the tumor to be an infarcted myoma which had resulted from twisting of its pedicle. Treatment consisted of subtotal hysterectomy. Myomectomy might have been attempted in this particular situation.

### EARLY PREGNANCY

While this presentation is primarily concerned with patients who have become pregnant, it is well known that uterine myomata reduce fertility.[8, 9, 10, 11] Intracavitary distortion, tubal obstruction, and faulty implantation are some of the theories advanced for infertility secondary to uterine myomata. In selected instances, where the myomata distort the uterine cavity or tubes, myomectomy may enhance the fertility index of the patient.[12, 13]

When conception does occur, the myomatous uterus increases the difficulties of differential diagnosis. In early pregnancy a myoma may be confused with an ectopic gestation, an ovarian tumor (See fig. 1), or an anomalous uterus. Uterine bleeding during the early months of pregnancy is difficult to evaluate in the presence of a myoma. A soft and symmetrical myoma may be mistaken for a pregnant uterus. When in doubt, a biologic pregnancy test is indicated before considering surgery. The differential diagnosis between a soft myoma and an

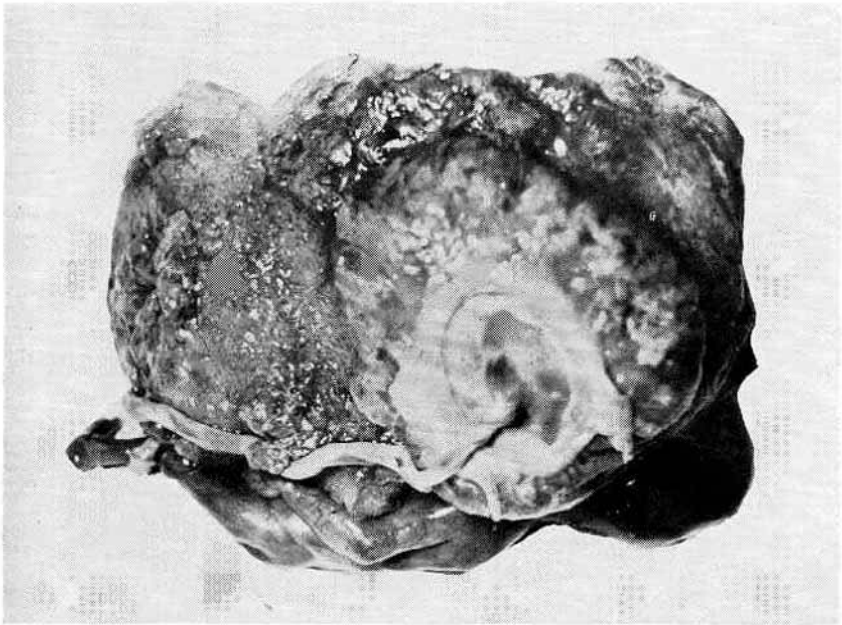

Fig. 2. K. C., (G.M.H.-B56311), 25-year-old colored, gravida 2, para 0, was admitted with symptoms of cramping pelvic pain and profuse genital bleeding in the 14th week of pregnancy. Subtotal hysterectomy was performed because of multiple myomata and uterine hemorrhage too profuse to treat through an undilated cervix. The central portion of a small circumvallate placenta was rather deeply embedded in an underlying degenerated submucous myoma. The peripheral portion of the placenta had separated prematurely.

intrauterine pregnancy should rarely be necessary after the abdomen has been opened. However, in such a situation, a bluish, soft, symmetrical uterus which contracts on stimulation, round ligaments which are enlarged, an isthmus which is soft, and an ovary containing a corpus luteum strongly suggest intrauterine pregnancy. Attempted aspiration of amniotic fluid from the uterus in early pregnancy may be more traumatic than diagnostic.

Myomata contribute to an increased incidence of spontaneous abortion. The abortion rate has been estimated as being about twice as great with a myomatous uterus as compared with the normal.[14] The treatment of an abortion complicating myomata, may require more operative manipulation than with a normal uterus. (See fig. 2.) As a result, more blood is lost and post-abortal morbidity is increased. One of the very major complications of myoma complicated by early pregnancy is abortion followed by tumor degeneration and infection. In selected instances fever, tenderness, and bleeding may suggest ne-

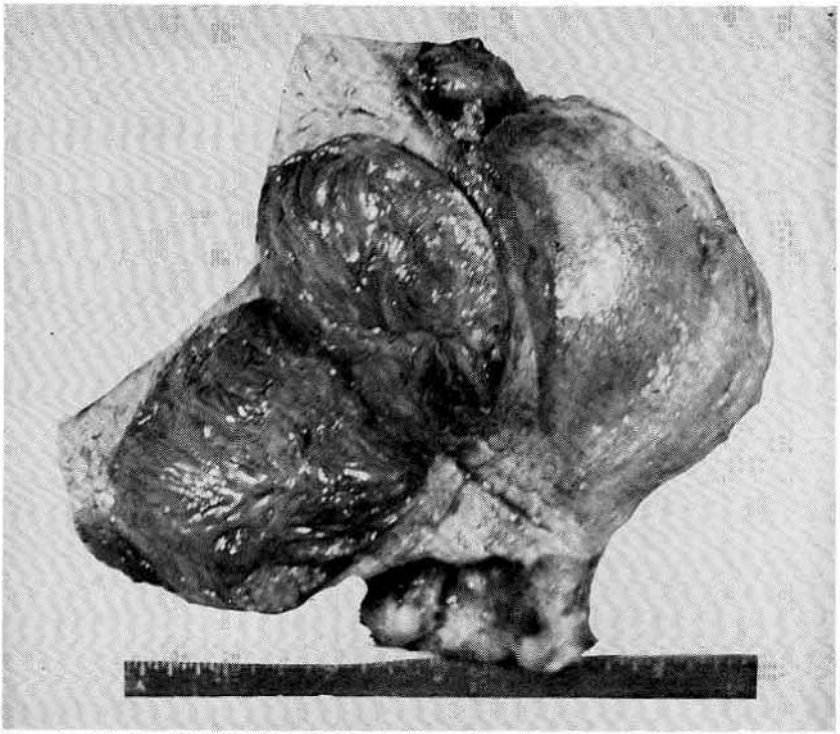

Fig. 3. E. C., (G.M.H.-D30952), 34-year-old, colored, gravida 2, para 1, had had her last normal menstrual period on 3-9-50. Induced abortion had been performed on 5-19-50. The products of conception were reportedly passed on 5-23-50. She was admitted on 5-25-50, with severe lower abdominal pain and fever. The uterus was irregular in contour and approximately 4 times normal size. The cervix was closed. A small amount of uterine bleeding and fever persisted. The preoperative impression was that of an infected uterine myoma. On 6-2-50, total hysterectomy was performed. The uterus contained a grossly infected and degenerated myoma. Postoperative recovery was rapid.

crobiosis with superimposed infection. Under such circumstances hysterectomy may become the therapeutic procedure of greatest benefit to the patient. (See fig. 3.)

### MIDDLE TRIMESTER

In the middle months of pregnancy changes in size, position, and blood supply of the tumors may cause significant symptoms. As the uterus grows out of the pelvis, subserous tumors on the anterior wall give rise to pressure symptoms and disturbances of the bladder. Bed rest, in moderate Trendelenberg position, will relieve the pressure from such tumors until the uterus enlarges enough to bring the myomata above the brim of the pelvis.

Fig. 4. E. T., (G.W.U.H.-97507), 33-year-old, white, primigravida, 16 weeks pregnant was admitted with cramping pelvic pain, nausea, vomiting and marked swelling of both lower extremities of two weeks duration. A solitary, partially degenerated, intramural myoma, 10 cm. in diameter, was found occupying the area between the uterosacral ligaments, causing pressure on the iliac vessels. Myomectomy was technically impossible. Postural treatment brought about no improvement. Surgery became necessary for the relief of her symptoms.

Distortion of a round ligament, by a relatively small myoma, may be quite painful. Any tumor of appreciable size which is fixed in the cul-de-sac by the uterosacral ligaments may cause acute pressure symptoms on the vessels and nerves of the pelvis. (See fig. 4.) These tumors tend to remain in the true pelvis.

During the course of pregnancy myomectomy is rarely necessary. Persistent or increasing pain in a myoma, with the patient at bed rest, is the symptom most likely to create an indication for surgical intervention. The size of a tumor alone is no indication for myomectomy.[15] A procedure starting out as a myomectomy may be concluded by hysterectomy because of inability to safely remove the myomata or because of hemorrhage.[16] Whenever possible, myomectomy should be avoided because of the increased incidence of abortion which follows this procedure.[17, 18]

Myomata, 8 cm. or more in diameter, create the highest incidence of complications in all phases of pregnancy. This is particularly true

Fig. 5. H. C., (G.M.H.-D20649), 36-year-old, colored, primigravida, whose last menstrual period began on 9-15-49, was admitted on 11-29-49, with cramping lower abdominal pain. The uterine fundus was at the level of the umbilicus. A diagnosis of early pregnancy, plus a degenerating myoma, was made. The patient improved on bed rest, and left the hospital on 12-10-49. She was readmitted on 1-2-50, with severe lower abdominal pain, but with no genital bleeding. Due to the severity of the pain, exploratory laparotomy was advised. Myomectomy was impossible. A total abdominal hysterectomy was performed. The myoma in the uterine fundus had undergone extensive red degeneration and the placenta had partially separated.

during the second trimester when acute appendicitis and ovarian cysts may be overlooked in the presence of painful myomata. At times it is impossible to differentiate between the pain from threatened abortion

Fig. 6. R. M., (G.M.H.-B89721), unregistered, colored, primigravida, age 32, was admitted by ambulance with the body of a premature fetus delivered, with the fetal neck fractured, and with bleeding from the uterus. An intramural myoma, 12 cm. in diameter, was present in the posterior lower uterine segment which prevented passage of the aftercoming head. Under anesthesia, a further attempt at extraction resulted in decapitation. Hysterectomy was followed by maternal recovery.

and that of a degenerating myoma. In many instances, an inevitable abortion and degenerating myoma co-exist. When a definite diagnosis of such a combination of circumstances can be made, hysterectomy is indicated as the safest course of treatment. (See fig. 5.)

### LATE PREGNANCY AND DELIVERY

In the last part of pregnancy some of the following serious complications may be encountered as a result of myomata: 1. fetal malpositions resulting from tumors which distort the uterine cavity; 2. inertia, or more specifically, expulsive dystocia occurring in the patient whose myometrium is disorganized by multiple myomata; 3. an otherwise asympotomatic myoma causing obstructive dystocia due to its size and location[19] (See fig. 6), and 4. premature labor.[20, 21]

Patients who have had a myomectomy prior to or during pregnancy have to be observed carefully in late pregnancy. Defective uterine scars from myomectomy, particularly those infiltrated with adenomyosis,

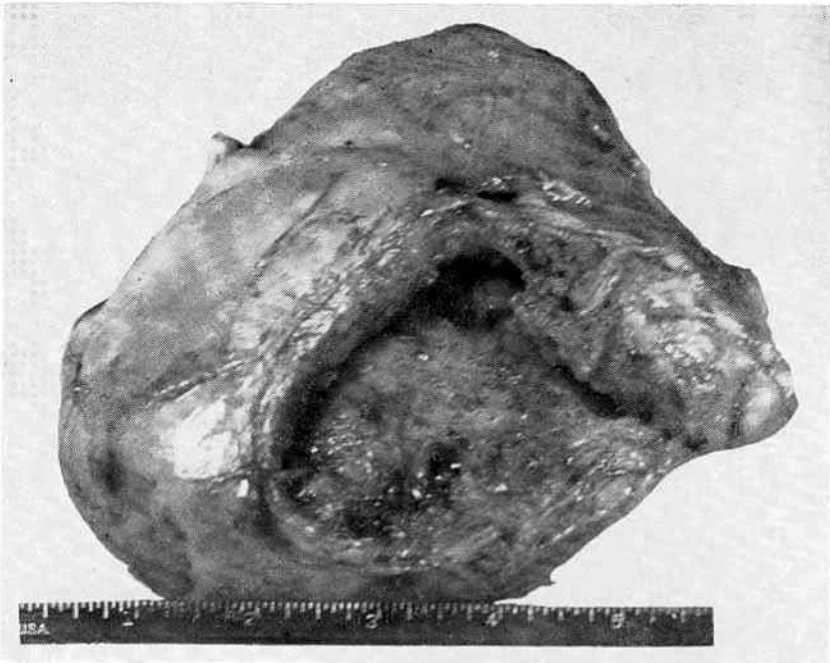

Fig. 7. N. C., (G.M.H.-D20195), unregistered, 32-year-old, colored, primigravida was admitted in the 36th week of pregnancy, with a complete, spontaneous rupture of the uterus prior to the onset of labor. A myomectomy had been performed in 1947. Treatment consisted of an immediate abdominal hysterectomy. The dead born infant weighed 4 lbs. 6 oz. (1984 grams). The pathologic sections showed marked adenomyosis incorporated in the old myomectomy scar.

may rupture during the latter part of pregnancy or during the course of labor. (See fig. 7.) Where there has been a deep excision of a myoma, the patient should be treated as if she had had a previous cesarean section. Delivery should be accomplished either by cesarean section or through the birth canal depending upon whether or not the presenting part is engaged, upon the degree of dilatation of the cervix, and the conditions under which the patient is to be delivered. A majority of women can be delivered safely through the birth canal after myomectomy.[22]

Aseptic vaginal examination is indicated in the last month of pregnancy in any patient who is known to have uterine myomata. Vaginal examination is indicated again at the onset of labor, particularly in the patient who has an unengaged presenting part. Where there is no obstruction to the birth canal, where the expulsive forces remain normal, and where the cervix is progressively dilating, delivery is usually accomplished most safely through the vagina.[18, 20, 23] Delivery

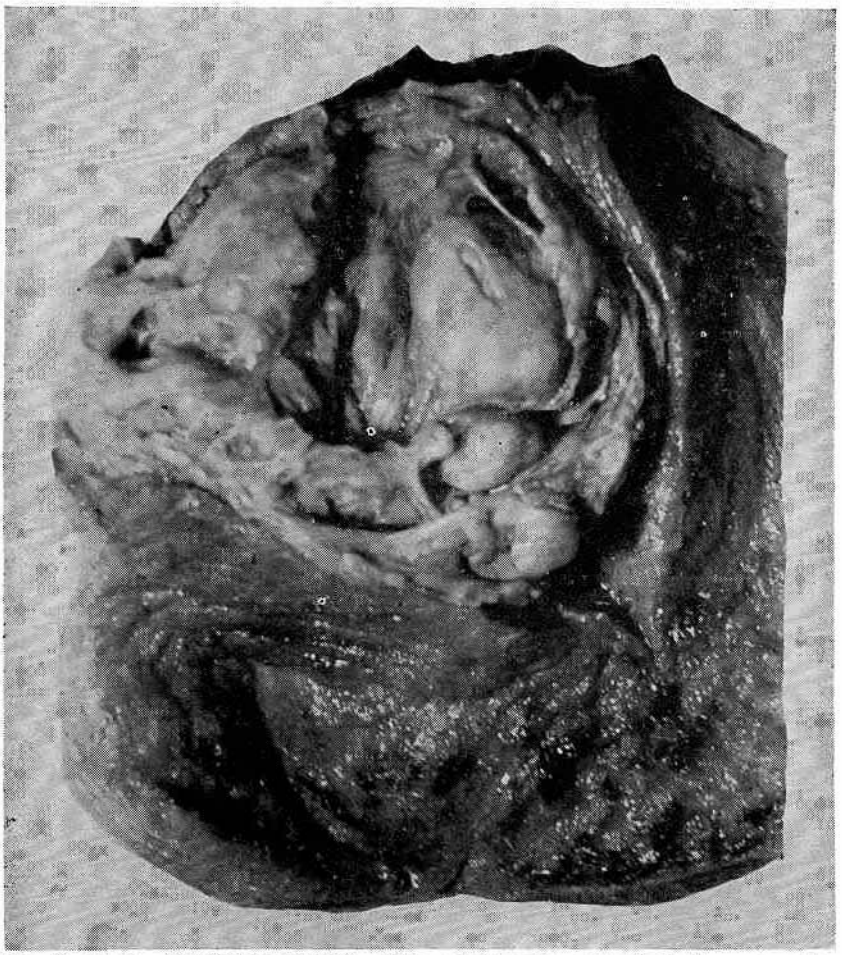

Fig. 8. R. B., (G.W.U.H.-13728), white primigravida, age 42, had an asymptomatic prenatal course. A living boy infant, weighing 7 lbs. 12 oz. (3515 grams), was delivered by elective cesarean section followed by hysterectomy. A myoma, 14 cm. in diameter, present in the left lower uterine segment, showed marked cystic degeneration.

by cesarean section has been advocated for the elderly nullipara with myomata.[1, 4, 19] If the myomata have interfered in no way with pregnancy, and if labor progresses normally, an advanced child-bearing age is no indication for cesarean section delivery. However, where there is evidence of tumor degeneration, obstructive dystocia, or fetal malposition in late pregnancy, elective cesarean section—hysterectomy may become the treatment of choice. This is particularly applicable to large myomata or to tumors which occupy a part of the true pelvis. (See fig. 8.)

Fig. 9. E. L., (G.W.U.H.-30606), 26-year-old, white, gravida 3, para 0, abortion 2, had a normal prenatal course up to the 36th week of pregnancy, at which time she was admitted in active labor. She was delivered by low forceps of a healthy girl infant weighing 5 lbs. 13 oz. (2637 grams). After delivery, the submucous tumor shown above was palpated in the uterus. At the conclusion of the third stage, the tumor was "shelled out" with no appreciable blood loss. Her puerperium was uncomplicated. (Courtesy of Dr. Rufus Roll.)

Small myomata may be benefited by succesive pregnancies.[5, 20] The tumors tend to regress following delivery. With succeeding pregnancies, they may fail to attain their previous size. However, in tumors, 8 cm. or more in diameter, hyaline degeneration and necrobiosis frequently occur during the first pregnancy. In such instances these changes are irreversible and usually require surgical excision.

### THE PUERPERIUM

Following delivery through the birth canal, three complications may present immediate problems of considerable magnitude: 1. post partum hemorrhage due to atonicity of the uterus; 2. hemorrhage from submucous myomata which have been disturbed by delivery of the infant or placenta; (See fig. 9.) 3. disruption of omental adhesions from their attachment to subserous or pedunculated myomata resulting in serious intraperitoneal hemorrhage.[24]

Delayed complications of the puerperium are: 1. severe or pro-

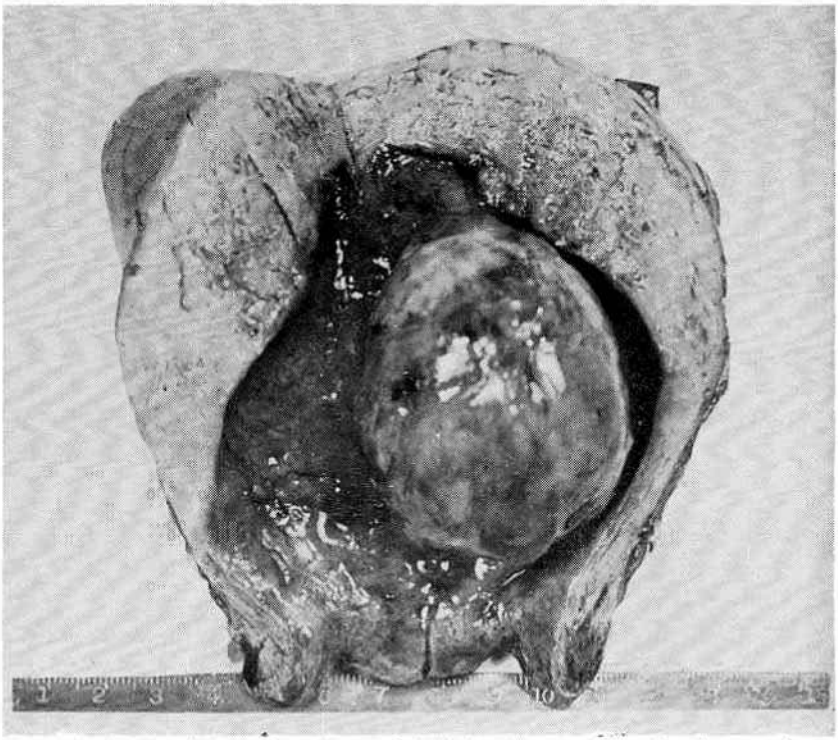

Fig. 10. E. B., (Alexandria Hospital-68635), 27-year-old, colored, gravida 1, was delivered on 3-15-50 of a normal infant weighing 5 lbs. 6 oz. (2438 grams). The puerperium was complicated by lower abdominal pain, prolonged uterine bleeding, and subinvolution of the uterus. She was readmitted on 5-19-50 with persistent bleeding and fever. After correction of her anemia, she was examined under anesthesia at which time a curette could not be introduced into the uterus due to an obstruction of the endometrial cavity. It was thought that the patient had an infected submucous myoma. A total abdominal hysterectomy was performed. Pathologic examination showed a submucous myoma with necrosis and acute inflammatory reaction. (Courtesy of Dr. Harrison Picot and Dr. C. J. Murphy, Jr.)

longed hemorrhage from a uterus which contains a submucous myoma;[20, 25] (See fig. 10.) 2. infection superimposed upon degenerated myomata;[26] 3. twisting of pedunculated tumors, and 4. pain due to tension on omental adhesions. (See figs. 11 and 12.)

## CONCLUSIONS

Of the patients with uterine myomata who become pregnant very few will encounter any major difficulty. However, in those who have large or pedunculated tumors, submucous myomata, or myomata which encroach upon the birth canal, major problems in diagnosis and

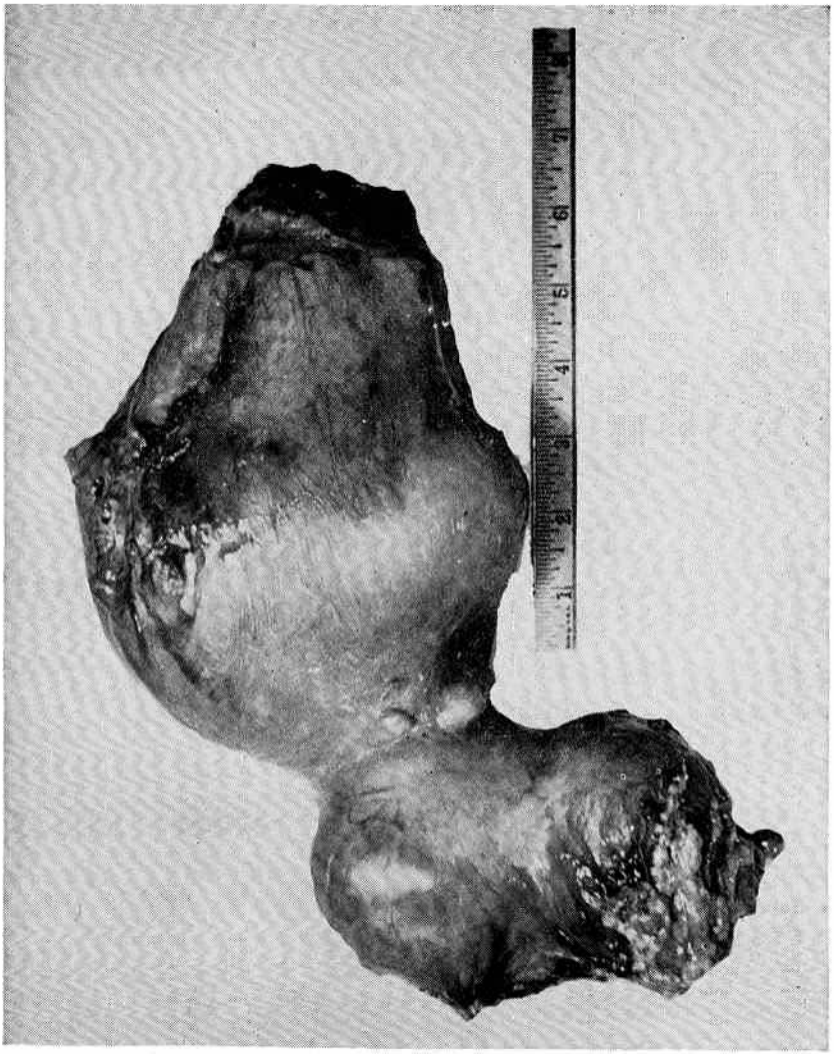

Fig. 11. M. T., (G.M.H.-D18748), 35-year-old, colored, primipara, with uterine myomata, had an uncomplicated prenatal course. She was delivered of twins weighing 7 lbs. 3 oz. (3260 grams) and 6 lbs. 2½ oz. (2778 grams) on 12-4-49. An 800 cc postpartum hemorrhage occurred due to atonicity of the uterus. On the fourth postpartum day she developed extreme tenderness over the myomata and in the upper abdomen. Due to increasing pain, exploratory laparotomy was performed on 12-9-49. As the uterus had involuted, tension on the omentum had increased, thereby causing pain. The omentum was densely adherent to the myoma and formed a part of its thin capsule. To avoid possible spillage of tumor contents the protective omental covering was left attached to the tumor.

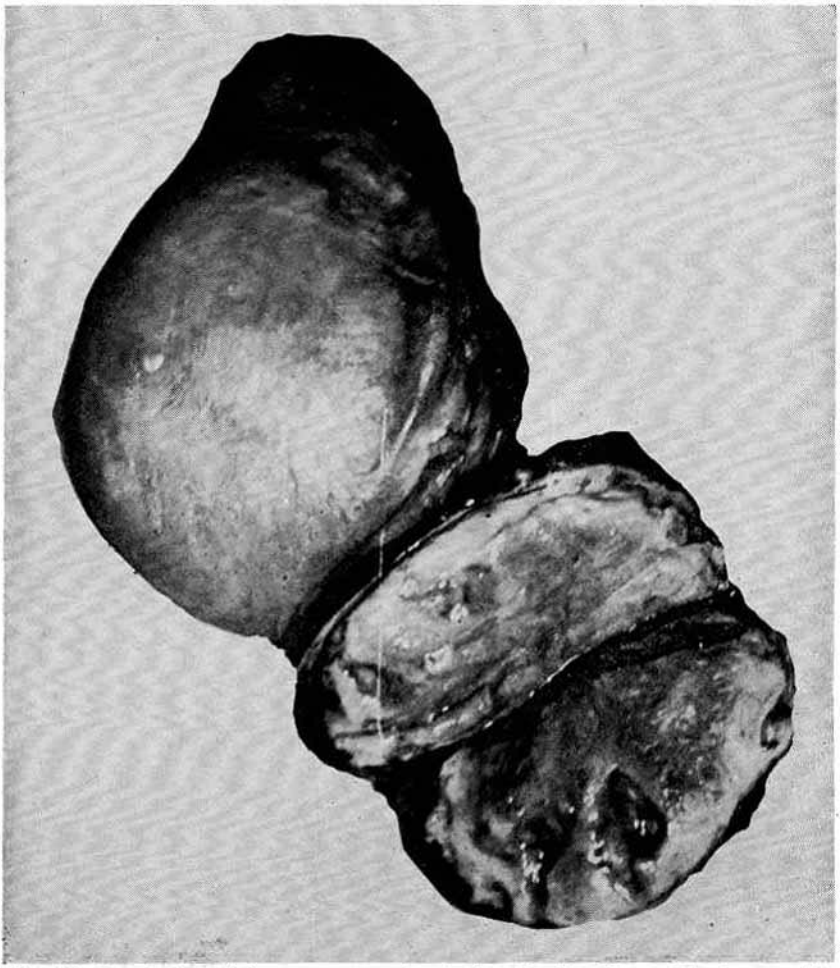

Fig. 12. Cut section of the myoma previously described in Figure 11, shows a thin capsule with underlying areas of cystic degeneration.

therapy may be anticipated. Clinically significant myomata associated with pregnancy tend to occur in the last half of the reproductive period. Early pregnancy complicates the pre-existing uterine myomata. Tumors continue to enlarge and are subject to the greatest incidence of acute circulatory changes during the middle months of pregnancy. In the latter months of pregnancy and during parturition, myomatous tumors may interfere with delivery and prevent proper uterine involution. A certain persistent incompatibility between myomata and pregnancy results in a relatively high incidence of fetal loss through abortions, premature births, and operative deliveries.

Treatment of myomata complicated by pregnancy is dependent upon early, accurate recognition and watchful anticipation. Pressure symptoms usually resolve with bed rest. Occasionally myomectomy is indicated for the removal of tumors which cause pain. Abortion followed by tumor degeneration and infection is often best treated by abdominal hysterectomy. Cesarean section–hysterectomy is the treatment of choice for large tumors which appear to have undergone irreversible degenerative changes in late pregnancy and for tumors which obstruct the birth canal. However, in the majority of patients with myomata, vaginal delivery is safer than abdominal operative delivery for both mother and infant. In the puerperium, the combination of prolonged bleeding and fever generally indicates the presence of an infected submucous myoma which is best managed by abdominal hysterectomy.

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## DISCUSSION

Dr. Robert A. Kimbrough, Philadelphia, Pennsylvania.—Mr. President, Fellows of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, and guests:

Doctor Parks and Doctor Barter are congratulated on their concise and well organized presentation of an important clinical problem. Of particular interest is their point that pregnancy complicates the pre-existing myoma rather than that the tumor complicates the pregnancy. From a strictly academic point of view the authors are undoubtedly correct, but any clinician of experience will agree that pregnancy in the presence of a sizeable tumor may create a real obstetrical complication. The problem is emphasized by the fact that the combination of pregnancy and myomas tends to occur in the primigravida in the later years of her child-bearing age — and that this particular pregnancy may well represent her last reproductive opportunity. Because of these factors the exercise of keen conservative judgment is imperative.

The difficulties in diagnosis presented by the co-existence of pregnancy and myomas have been appropriately stressed.

In most instances, fortunately, one is able to differentiate between the irregularly enlarged pregnant myomatous uterus and pregnancy complicated by an ovarian tumor; if, however, there is reasonable suspicion of the latter, laparotomy at the appropriate time is strongly indicated to avoid possible neglect of a malignant neoplasm. An additional useful point in differentiating between a pregnant uterus and a soft myoma, is the symmetrical insertion of the round ligaments on the anterior face of the pregnant uterus.

A difficult decision is posed by the patient in the latter half of reproductive life who knows of the presence of a sizeable myoma *prior* to undertaking pregnancy. Laparotomy may reveal the impossibility of myomectomy and, therefore, the necessity of hysterectomy. In the absence of troublesome symptoms, it seems preferable to allow such patients an attempt at pregnancy in the myomatous uterus rather than take the chance on the loss of child-bearing function. A certain percentage of patients managed in this conservative manner have been conducted through successful pregnancies. If spontaneous abortion occurs, myomectomy should then be attempted.

Carneous degeneration which fails to respond to conservative management is practically the only indication for myomectomy during pregnancy. Rarely, indeed, is myomectomy necessary because of impaction in the pelvis or twisting of the pedicle of a pedunculated tumor.

This discussant is in entire accord with the authors in their conservative management at the time of delivery; caesarian section should be elected only if the progress of labor is not satisfactory. Unfortunately, the essayists have not presented the question of myomectomy at the time of caesarian section. Because of the increased dangers from bleeding and infection, we have avoided all but the most simple myomectomies combined with caesarian section, preferring later myomectomy or immediate caesarian-hysterectomy as indicated by varying pertinent factors.

A strong plea is made that the elderly primigravida who has successfully gone through pregnancy with a myomatous uterus, be allowed, in the absence of symptoms, to have another pregnancy before being subjected to operative treatment of even large tumors. It stands to reason that what she has successfully done before she may well do again.

In closing, Mr. President, I thank you, Sir, and the Fellows of this Association for the honor of being with you at this meeting and for the privilege of discussing this excellent paper.

DR. WILLIS E. BROWN, Little Rock, Arkansas.—It has been a pleasure to hear this presentation by Dr. Parks and to see the beautiful colored photographs of the specimens which he has had the privilege of observing. The combination of pregnancy and myomatous uteri is not common, and Doctor Parks is indeed fortunate in having had the opportunity to study such a large group of this clinical entity

The occurrence of uterine myoma in the childbearing age of the average white woman in the northern part of the country is sufficiently uncommon that my own experience with this combination was limited. A few years ago when I undertook the responsibility for a negro service I anticipated the privilege of seeing examples of these degenerated and complicating myomas. After a short experience, it became apparent that the complications usually ascribed to myomatous uteri complicated by pregnancy were not being seen.

Consequently, we undertook a survey of the problem of reproduction and uterine fibroids in our clinic and this report is a brief abstract of the material which was available to us. The case records of the in-patients from 1940 through 1948 have been analyzed for the coexistence of pregnancy and fibromyoma. We further studied the reproductive history of women with myoma seen outside of pregnancy. These data were compared with information obtained from the records of the obstetric admissions from the year 1946.

During these nine years the diagnosis of uterine myoma was made on 975 women and there were 7,338 births in the department. Of the 7,338 parturitions, there were 56 women whose uteri contained clinically significant uterine fibroids, or an incidence of 0.6%. Of the 975 women with myomas, 56 were gravid or an incidence of 5%. During the year 1946, there were 1,055 in-patient deliveries. These three sets of records were analyzed and the data compared in order to study the effect of myomas on reproduction.

Of the 975 patients with uterine myomas, 23 had inadequate records of their reproductive history. Two hundred and fifty-six patients (26%) had never been pregnant, an extremely high incidence of infertility.

The 696 women with myomas who had been pregnant had a total of 2,044 conceptions. Only 63% of these conceptions reached viability while 37% terminated in abortion. There were 162 women or 23% who aborted all of their conceptions. If the 256 women who never became pregnant are added to the 162 women who became pregnant but failed to carry a child to viability, there are 418 of the 952 patients or 43% who failed to have a satisfactory birth performance. (See Table.)

These figures are in contrast to the reproductive history of 1,055 women entering the Obstetric Service in 1946. These women had a total of 3,361 pregnancies, of which 87% went to viability and only 13% terminated in abortion, in contrast to the 37% abortion in the patients whose uteri harbored myomas. (See Table.)

Thus it would appear that infertility and abortions are common complications of myomatous uteri, and in the colored race where these tumors are found more commonly and at an earlier age they constitute a definite handicap to reproduction.

We then compared the obstetric records of these 56 cases of myoma complicated by pregnancy with the 1,055 admissions during 1946. A tabulation of the

complications is found in the chart, and while this series is small, it tends to confirm the reports of others that there is an increase in almost all of the complications of pregnancy and parturition. (See Table.) The marked increase in cesarean section with hysterectomy is to be expected. While the incidence of inertia and prolonged labor is almost double the normal, the average length of labor in these two groups was similar. There is also a considerable increase in the incidence of placental complications and postpartum hemorrhage in this group. These features tend to indicate an interference with the mechanism of labor by the myomas. Abnormal fetal presentations were not significantly increased by the myomas.

Despite this considerable increase in complications of parturition, these 56 women had 58 viable infants (2 sets of twins) of whom 7 were stillborn and 2 died neonatally or a fetal loss of 15%, while in the 1,067 births during 1946 (12 sets of twins), the fetal loss was 6%.

In contrast, there was no single incidence of serious myomatous degeneration in this series. While there is almost a threefold increase in maternal morbidity, this doubtless is accounted for by the increased incidence of abdominal delivery and the other complications mentioned above.

We have thus come to view the myomatous uterus as a serious threat to the whole process of reproduction rather than a complication of parturition. Almost half of the women with uterine fibroids had no viable infants by virtue of infertility or abortion. If the patient can conceive and carry her pregnancy to viability, she faces a two to threefold increase in the complications of gestation but has an 85% chance of having a living child.

A

INCIDENCE OF MYOMA UTERI AND PREGNANCY

| | |
|---|---|
| Number of Obstetric Admissions – 1940-1948 | 7,338 |
| Complicated by myoma – 56; 0.7% incidence | |
| Number of patients with clinical myoma – 1940-1948 | 975 |
| Complicated by pregnancy – 56; 5.0% incidence | |

B

EFFECT OF MYOMA ON REPRODUCTION

| | | Myoma/ Pregnancy | 1946 Obstetrical Admissions |
|---|---|---|---|
| Number of Patients | 56 | | 1,055 |
| Total number of Pregnancies | | 176 | 3,361 |
| Number of Abortions | | 35 – 20% | 442 – 13% |
| Number of Patients with Myoma | 975 | | |
| Inadequate Records | | 23 | |
| Number of Women never Pregnant | | 256 | |
| Number of Women with Myoma who had never been pregnant | 696 | | 1,055 |
| Total Number of Pregnancies | 2,044 | | |
| Abortions | | 751 – 27% | 442 – 13% |
| Number of Women Nongravid | | 256 | |
| Number of gravida nonviable inf. | | 162 | |
| Total Number Barren | | 418 or 43% | |

C

COMPLICATIONS OF PARTURITION IN MYOMATOUS UTERI

| | | Myoma/ Pregnancy | | 1946 Obstetrical Admissions | |
|---|---|---|---|---|---|
| Number of Patients | 56 | | | 1,055 | |
| Toxemia and Eclampsia | | 17 – 30% | | 96 – | 9 % |
| Abruptio | | 2 | 4 | 9 | 0.9 |
| Breech | | 2 | 4 | 24 | 2 |
| Face | | 2 | 4 | 1 | 0.1 |
| Transverse | | 0 | | 4 | 0.4 |
| Prolonged Labor | | 5 | 10 | 61 | 6.0 |
| Retained Placenta | | 5 | 10 | 6 | 0.6 |
| Postpartum Hemorrhage | | 6 | 11 | 21 | 2.0 |
| Cesarean Section | | 12 | 22 | 16 | 1.5 |
| Poro | | 7 | 14 | 1 | 0.1 |
| Forceps, etc. | | 5 | 10 | 98 | 9.0 |
| Morbidity | | 19 | 34 | 121 | 11.0 |
| Mortality | | | | | |
| †Postoperative Hemorrhage Porro 1 | | ‡Carcinoma 1 | | | |
| †Postpartum Eclampsia 1 | 2 – 4% | ‡Anesthesia 1 | | 2 – 2% | |
| Fetal Loss 9 | 15% | | | 65 – 6% | |

†Avoidable ‡Nonobstetric

DR. JOHN L. PARKS, Washington, D. C. (closing).—I appreciate the discussions by Doctors Kimbrough and Brown. Mention was not made of myomectomy at the time of cesarean section. There is an occasional patient seen at cesarean section who has an easily resectable solitary subserous myoma. Removal of this type of tumor is a satisfactory procedure, but such patients and tumors have to be carefully individualized. Regardless of the fact that she may have myomatous tumors, we all agree that every woman should be given every opportunity to maintain her childbearing function.