COMPLICATIONS DURING PREGNANCY, ASSOCIATED WITH FIBROMYOMA OF THE UTERUS

by

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Introduction

Fibromyoma affects pregnancy, labour and puerperium, and pregnancy also leads to certain changes in the tumour itself. The consensus is that leiomyomas grow during pregnancy (Mecleod and Read). The growth of the tumour has been claimed to be due to apparent increase in the palpable surface area, without real increase in the mass, or swelling due to degenerative changes in the tumour, or hypertrophy and hyperplasia of smooth muscles and connective tissue, or combination of the factors. To find out the changes in the tumour and complications of pregnancy an attempt has been made in the present series.

Materials

Twenty-one cases have been analysed from 1962 to 1966. During this period there were 5055 confinements, giving an incidence of 0.4%. Incidence of fibromyoma associated with pregnancy ranges from 0.3% (Eisaman) to 7.2% (Thompson) (Table I). The factors which can explain the great difference in the incidence of fibromyoma are race, age at marriage and inclusion of small and/or asymptomatic fibromyomas.

TABLE I

Incidence of fibromyoma in pregnancy

Author	Year	Percentage
Kosmak	1923	0.34
Pierson	1927	0.81
Watson	1932	1.30
Campbell	1933	0.43
Eisaman	1934	1.30
Mussay & Hardwick	1935	1.90
Wilson	1941	1.00
Thompson	1941	7.20
Lazard	1943	1.25
Duckering	1946	1.40
Author	1967	0.40

Fifteen (71%) out of 21 cases were primigravidae and 6 were multigravidae. The incidence of primigravidae of all cases, confined during that period was 53%. One case was detected below 20 years of age, 5 cases between 21 and 25 years, 9 cases between 26 and 30 years, 3 cases between 31 and 25 years and 3 cases above 35 years.

Eight of these primigravidae had a period of relative infertility for 3 years or more. The interval between marriage and pregnancy in the rest

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of the primigravidae and interval in between pregnancies in the multiparae was short. Thus it appeared that the fibromyoma did develop in the uterus, which remained idle either due to late marriage or due to relative infertility, rather than the fibromyoma itself causing the sterility. Duckering, also analysing 160 primigravidae with fibromyoma, found no evidence of infertility. Only two of these cases complained of menorrhagia, which might be of significance that submucous fibromyoma, associated with menorrhagia rarely would allow conception to occur.

In this series, abortion was threatened in 3 (14.2%) cases and pregnancy ended in inevitable abortion in 3 (14.2%) cases (Table II).

TABLE II

Incidence of abortion in pregnancy with fibromyoma

Author	Year	Percentage
Kosmak	1923	9.7
Pierson	1927	11.5
Campbell	1933	14.6
Eisaman	1934	12.6
Mussay & Hardwick	1935	12.6
Wilson	1941	8.8
Lazard	1943	6.2
Duckering	1946	17.1
Browne	1952	37.0
Author	1967	14.2 (inevitable)

Out of these six cases, four aborted before 12th week and two between 12th and 28th week. One case who gave history of inevitable abortion in her first pregnancy at 12th week, started bleeding in her second pregnancy at 10th week but with treatment she continued near term, and gave birth to a viable child. Incidence of abortion as a whole, during this period was 7% as against 28.4% in pregnancy with fibromyoma.

Vaginal cytology was studied in 4 of these 6 cases for prognostic purpose. Findings were favourable in 3 cases and unfavourable in one. The smear pattern was thought to be favourable when the cells were mostly composed of intermediate squamous cells and navicular cells, arranged in clusters, leucocytes and histiocytes were comparatively less, karyopyknotic index was low. Cytological features were unfavourable when navicular cells were scanty, superficial squamous cells were present, karyopyknotic index was high and there were plenty of leucocytes, and histiocytes were present. In the favourable group, in 2 cases pregnancy continued to term. Of the other in the favourable group and the case, with unfavourable smear pattern, pregnancy ended in inevitable abortions.

Five of these cases were admitted with clinical findings suggestive of threatened abortion and were treated with rest, phenobarbitone, ½ gr. thrice daily, isoxypurine 5 mgm, intramuscularly every 4 hours in first 24 hrs., then one tablet, thrice daily and proluton depot 250 mgm intramuscularly every 3rd day. In 3 of these 5 cases abortion was checked and treatment was continued up to 22 weeks. In 2 of the 3 cases of inevitable abortion, dilatation and curettage became necessary to remove the remnants of products of conceptions.

A firm mass attached to the uterus is an important clinical finding to distinguish fibromyoma from other swellings. It should be palpated during a Braxton Hicks contraction, in case of difficulty, to differentiate it from other intra-abdominal swellings. The tumour is difficult to palpate when it lies underneath the costal arch or on the posterior surface of the uterus. Diagnosis of fibromyoma with pregnancy was confused in one case with ovarian tumour and pregnancy. In another woman of 45 years, with fibromyoma the pregnancy remained suspected till the biological test was performed.

In 8 cases out of 21, tumour was less than 5 c.m. in diameter approximately, in 8 cases between 5 c.m. and 7.5 c.m. and in 5 cases bigger than 7.5 c.m. in diameter. All the 8 cases with small myoma remained asymptomatic. The series gave an impression that when the tumour is small changes in size, shape and position, and complications are rarely met with.

Pain over the tumour or tumours was present in 8 cases 38% (5 medium size and 3 big size); so it was size which was responsible for the causation of symptoms rather than the site or number. Pain was continuous and dull aching in nature. In all these cases the pain started before 28th week of pregnancy. None of them was associated with rise of temperature and leucocyte count was within normal limits of pregnancy.

Histological changes were studied in 5 cases in whom the specimen was removed during myomectomy caesarean section or caesarean hysterectomy; slides were stained with haematoxylin and eosin. Four of them complained of pain sometime or other and the other cases were symptomless. Intracellular and extracellular oedema, hypertrophy and hyperplasia of muscle cells in the leiomyoma and myometrium and increase in the connective tissue of the tumour were observed in all the 4 bigger tumours. Hyaline degeneration could be demonstrated at places. Changes in the blood vessels in the tumour and capsule were relatively less prominent. In one case capillaries in the tumour ruptured at places with extravasation of blood outside. The smaller tumour looked white in contrast to bigger tumours and the uterus which had the usual red colour. Changes were also minimum in the smaller tumour studied histologically, except it had a calcareous degeneration of about 5 c.m. diameter in the centre.

Treatment of those cases complaining of pain consisted of, rest, phenobarbitone, and navidrex 2 tablets in the morning on alternate days. With this the pain subsided or diminished in 4 cases (50%). Myomectomy was performed in 2 of these cases for persistent pain. In one case the pedicle was twisted, got adherent to and received blood supply from the omentum. The second case had a posterior subperitoneal fibromyoma causing constant pain, which did not respond to conservative treatment. In the post-operative period in both cases, sedatives for 72 hours and proluton depot 250 mgm. intramuscularly on alternate days for one week was given. In both cases pregnancy continued up to term and delivery took place safely through vaginal route.

TABLE III
Complications during pregnancy and labour

Total No. of cases	Pregnancy with fibromyoma	Of all pregnancies
Cases	21	5055
Abortion	14.2%	7%
Pre-eclamptic toxaemia	16%	9%
Abruptio placentae	nil	0.8%
Breech	nil	4%
Unstable lie	5.5%	0.4%
Caesarean section	16.6%	11%
Forceps	27%	25%
Postpartum haemorrhage	5.8%	0.5%
Av. baby weight	5 lb.-14 oz.	6 lb.-2 oz.
Prematurity	22%	19%
Perinatal mortality	11%	5%

This series included one twin pregnancy and another case of unstable lie (Table III). In all other cases foetus presented by vertex, pregnancy ended in premature labour in 3 (16.6%). Labour was not prolonged in any of the 18 cases. Caesarean section was performed in 3 cases. In one case, caesarean hysterectomy had to be performed as the uterine incision extended into the tumour bed of a big intra-ligamentary fibromyoma and she was a multigravida. She expired 6 hours after the operation possibly due to pulmonary embolism. Post-partum haemorrhage occurred in one case after caesarean section. Average baby weight was 5 lbs. 14 ozs. In no case, congenital malformation was clinically detectable. Two (11%) of babies died in neonatal period. Foetal loss in the series of W. E. Brown was 6%.

Discussion

Incidence of abortion with fibromyoma was 28%, which was higher than the incidence of abortion, 7% as a whole during this period. Duckering found an incidence of abortion of 17%. Abortion took place both in early and mid-trimesters. From this small series it was not possible to conclude whether abortion was due to deficiency of hormones as suggested by the vaginal cytology, or was due to the tumour, or some other factor. However, when the smear pattern was favourable and the tumour was small and not of submucous variety, early hospitalisation, administration of sedatives, isoxypurine, and progesterone in adequate dosage might be of value to check the process of abortion.

Pain over the tumour was a common complication observed in 38% cases. Pain was possibly caused by oedema, hypertrophy and enlargement of fibromyoma, and consequent stretching of the capsule. The so-called red degeneration, often attributed as a cause of pain, is a rare clinical entity and its histological confirmation is also quite difficult. However, the treatment of pain should be primarily conservative.

Small tumours are asymptomatic.

Changes in the tumour, like hypertrophy, oedema and hyaline degeneration were common in the bigger tumours. Smitz (1934) also observed that myomas of 8 c.m. or more in diameter created the highest incidence of complications during pregnancy. Laparotomy is rarely indicated unless the tumour is twisted or the diagnosis is in doubt. Gentle handling and sedatives, isoxypurine and progesterone in the post-operative period should be advised to prevent abortion. Caesarean hysterectomy should be avoided.

Summary and Conclusion

Twenty-one cases of pregnancy associated with fibromyoma were analysed. Incidence of abortion was 28% and pain was present in 38% cases. Complications were observed in bigger tumours. Myomectomy was performed in 2 cases.

Histological changes in the tumours consisted of oedema, hypertrophy and hyaline degeneration.

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Figs. on Art Paper II