ABDOMINAL PREGNANCY

Report of Ten Cases with Analysis

by

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Abdominal pregnancy is commonly intraperitoneal. Rarely it is extraperitoneal when it grows between the layers of broad ligament. Regarding the primary or secondary origin of intraperitoneal pregnancy it appears that one cannot deny the possibility of primary abdominal pregnancy altogether, though it must be admitted that genuinely proved primary pregnancy is rare indeed. Most of the cases reported in the literature belong to the secondary variety. Authors like Lawber, Von de Lov, Holt Kamp and Ahrquist and others have reported primary pregnancy.

Abdominal pregnancy is rare and individual surgeons come across only a few. A review of the literature shows that most of the communications from different parts of the world concern one or two cases or at best a small number of cases. Only a few comprise a series of cases. A few authors have made collective reviews of the reported cases. Sittner as early as 1906 made a comprehensive survey of cases, Hellman and Simon collected 316 cases upto 1933, S. Mitra in 1940 found 483 cases in the literature, and added 22 cases of his own and of other surgeons of India, making a total of 505 cases. Between 1940-47 I could find reports of about 79 cases, and between 1948-56 I collected 156 cases, thus making a total of 740 cases.

I now report 10 cases of intraperitoneal abdominal pregnancy. I made a survey of proved cases of ectopic pregnancy operated in Eden Hospital, Medical College, Calcutta, during 12½ years period (1942-June 1954) and found 245 cases. There were 10 cases of abdominal pregnancy in these 245 cases of ectopic pregnancy. Adding these 10 cases makes a total of 750 cases in world literature up to date.

CASE REPORTS

Case No. 1: Nonviable infected secondary abdominal pregnancy — wrong diagnosis— maternal death.

N. C., aged 24 years, was admitted on 17-3-54 with pain in abdomen for 10 days, vaginal bleeding, fever and dysuria after an amenorrhoea of 9 months. L.M.P. 26-1-53, Para 2 + 1, last childbirth 9 years back. General condition was fair. Hb 46%. A swelling was felt per abdomen 2 fingers above symphysis. The swelling was felt separate from the uterus. Cervix was displaced. A tubo-ovarian mass was diagnosed. Laparotomy on 23-3-54 revealed an infected secondary abdominal pregnancy. The sac with placenta was removed along with subtotal hysterectomy. She went home but

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was readmitted with pain and collapse 18 days later. Autopsy showed coronary thrombosis.

Case No. 2: Nonviable secondary abdominal pregnancy — doubtful diagnosis — mother alive.

J. G., aged 35 years, was admitted on 21-12-53 with pain in abdomen 2 months, vaginal bleeding after an amenorrhoea of 8 weeks. (L.M.P. 1 October) Para 4 + 0. Last child 12 years back. There was no shock. Hb 44%. An extrauterine mass was felt, and ectopic pregnancy was suspected. Needling produced blood and laparotomy on 24-12-53 showed secondary abdominal pregnancy. Sac was removed along with hysterectomy and right salpingo-oophorectomy. Discharged cured on 5-1-54.

Case No. 3: Nonviable pregnancy—doubtful diagnosis—mother alive.

J. D., aged 35 years, admitted on 24-10-53 with pain in abdomen 2 months, fever, dysuria, with no history of amenorrhoea. Para 2. Last child 13 years old. A tender mass was felt in the right fornix which extended into abdomen upto 4 fingers above symphysis. Male toad test was positive. Needling was done, suspecting ectopic pregnancy. Serous fluid (liquor amnii) came out. Sac with placenta was removed and sub-total hysterectomy done on 3-11-53. The foetus was very premature and died soon after. Discharged on 12-11-53. (Fig. 1.)

Case No. 4: Nonviable pregnancy—doubtful diagnosis—mother alive.

S. B., aged 32 years, was admitted on 22-10-53 with pain in abdomen 10 days, acute since the day of admission, without history of amenorrhoea. Para 4 + 0. Last child 4 years back. Hb 45%. Needling was done after an extrauterine mass was felt in the pouch of Douglas. Blood came out. On 24-10-53 a ruptured secondary abdominal pregnancy was removed entire along with sub-total hysterectomy and bilateral salpingo-oophorectomy. Discharged on 5-11-53.

Case No. 5: Viable pregnancy — correct diagnosis — mother alive.

K. S., aged 30 years, had pain in abdomen and vaginal bleeding 3 days after an amenorrhoea of 7 months. L.M.P. 1st October, 1952. Admitted on 5-5-53. Para 3. Last child 7 years. D. & C. & I. was done 2 years back for secondary sterility. Foetal parts were felt per abdomen. F.H.S. was absent. Intrauterine dead foetus was diagnosed and induction was attempted. Having failed, a skiagram of abdomen was taken, which showed Spalding's sign, with foetal shadow too high up in abdomen. Suspicion of abdominal pregnancy was confirmed by hystero-salpingography (Fig. 2) on 9-6-53. Sac was removed along with hysterectomy (Fig. 3).

Case No. 6: Nonviable ruptured pregnancy — wrong diagnosis — mother alive.

On 16-4-53 G. D., 25 years, was admitted with pain in abdomen, irregular bleeding after 4 months' amenorrhoea. Para 2. Last child 6 years. Hb 56%. An extrauterine cystic mass was felt reaching the lower abdomen. Ovarian cyst was diagnosed. Acute pain in abdomen and shock developed on 23-4-53 and laparotomy revealed a ruptured secondary abdominal pregnancy with haemoperitoneum. Sac and placenta were removed with left salpingectomy. Post-operative shock was treated by blood transfusion. Patient was discharged in good condition.

Case No. 7: Nonviable secondary abdominal pregnancy — repeated ectopic — maternal death.

G., 24 years, was admitted on 9-3-53 for pain in abdomen 20 days, and vaginal bleeding after amenorrhoea of 8 weeks. She had a ruptured tubal pregnancy 2 years back. An extrauterine swelling was felt reaching up to umbilicus. Needling was done on 10-3-53 with diagnosis of ectopic pregnancy. Serous fluid (liquor) was withdrawn. Sac was removed. Adhesions were extensive and gut which was injured was repaired. Hysterectomy was done. It was secondary abdominal pregnancy. Faecal fistula developed and she died on 20-4-53.

Case No. 8: Nonviable secondary abdominal pregnancy — wrong diagnosis, placenta left behind — mother alive.

On 17-4-51, S. D., 39 years, Para 0, was admitted with pain in abdomen 2 months, dysuria 15 days, with no history of amenorrhoea. A swelling was felt in

anterior fornix reaching above symphysis pubis. Hb 64%. On 23-4-51 laparotomy was performed with a diagnosis of dermoid cyst. A secondary abdominal pregnancy was found. Sac was removed and placenta was left undisturbed, the abdomen being closed without drainage. Patient had uneventful recovery.

Case No. 9: Nonviable ruptured secondary abdominal pregnancy — wrong diagnosis — mother alive.

A. V. B., aged 42 years, Para 4 + 0, had missed a period and had D. & C. outside. On 21-3-50 she was admitted for acute pain in abdomen for 48 hours and with severe shock, anaemia and fever. Pelvic cellulitis was considered but increasing shock demanded laparotomy. A ruptured secondary abdominal pregnancy was found. Removal of sac with sub-total hysterectomy and left salpingo-oophorectomy was done followed by treatment of shock. Patient did well and was discharged on 1-4-50.

Case No. 10: Nonviable ruptured secondary abdominal pregnancy — wrong diagnosis — maternal death.

B. D., 36 years, had pain in abdomen with fainting after 4 months' amenorrhoea. Para 0, admitted on 10-4-48. An extrauterine mass was felt. Hb 40%. On 11-4-48 severe pain in abdomen with shock and deterioration of general condition necessitated a laparotomy. A ruptured secondary abdominal pregnancy was found. Sac with placenta was removed. Patient died at 3 P.M. on 11-4-48 of shock.

Salient points of these cases are given in Table 1.

ANALYSIS OF 10 CASES

Incidence

During the period 1942 to June, 1954 in the Eden Hospital, Calcutta, there were 10 cases of abdominal pregnancy, out of a total of 245 cases of ectopic pregnancy. Thus abdominal pregnancy constituted 4.09% of ectopic pregnancy. During the same period there were 7,24,921 confinements giving an incidence of 1 in 7,249 of uterine pregnancies.

Pathology

Origin of pregnancy: In the present series, 5 cases were of secondary origin, left tube being affected in 4 and the right tube in 1. In the other 5, it was not possible to say confidently whether the pregnancy was primary or secondary.

Duration of pregnancy: Pregnancy was advanced in 2 cases and nonviable in 8 cases.

The foetus was dead in 9, of which 2 were macerated. One foetus was born alive but died of extreme prematurity.

Sac was infected in 2 and was ruptured in 2.

Clinical Features:

Age: Youngest patient was 24 and oldest was 42. 3 cases were between 24-30 years, while 7 cases were above 30 years of age.

Parity: 2 cases were nulliparae. 1 was 2nd gravida, 3 were 3rd gravida, 1 was 4th gravida and 3 cases were 5th gravida.

Past history of operation: 1 case had tubal pregnancy previously so that there was one case of repeat ectopic pregnancy. 2 cases had D. & C. for sterility.

Past history of pelvic inflammation was present in 2 cases.

History of abdominal crisis in early stage of pregnancy was not found in any, neither was there any history of spurious labour.

TABLE I

The Abdominal Pregnancies in the Eden Hospital; 12½ Years' Period (1942 *to June,* 1954)

Case no.	Name	Admission	Age	Parity	Amenorrhoea (weeks)	Period of pregnancy	Shock (preoperative)	Treatment	Result (Mother)
1	N. C.	17-3-54	24	2 + 1	36	Less than 28 wks.	Nil	Sac + Placenta removed + Hysterectomy	Death (Coronary Thrombosis)
2	J. G.	21-12-53	35	4 + 0	8	Less than 28 wks.	Nil	Sac + Placenta removed + Hysterectomy	Alive
3	J. D.	24-10-53	35	2 + 0	0	Less than 28 wks.	Nil	Sac + Placenta removed + Hysterectomy	Alive
4	S. B.	22-10-53	32	4 + 0	0	Less than 28 wks.	Nil	Sac + Placenta removed + Hysterectomy	Alive
5	K. S.	5-5-53	30	3 + 0	28	More than 28 wks. viable	Nil	Sac + Placenta removed	Alive
6	G. D.	16-4-53	25	2 + 0	16	More than 28 wks. viable	+	Sac + Placenta removed	Alive
7	G.	9-3-53	24	1 Ectopic preg. before	8	Less than 28 wks.	Nil	Sac + Placenta removed + Hysterectomy	Death (Fistula)
8	S. D.	17-4-51	39	0 + 0	0	Less than 28 wks.	Nil	Placenta left behind	Alive
9	A. V. B.	21-3-50	42	4 + 0	6	Less than 28 wks.	+	Removal of sac + Placenta + Hysterectomy	Alive
10	B. D.	10-4-48	36	0 + 0	16	Less than 28 wks.	+	Sac + Placenta removed	Death (Shock)

Symptoms

Acute symptoms were present in 3 cases while in 7 cases the symptoms were mild.

Duration of symptoms: Symptoms were present for less than one month in 6 cases and for 2 to 5 months in 4 cases. Abdominal pain was the most prominent symptom, being present in 80% cases but in 2 cases no pain was complained of. Vaginal bleeding was present in 50% cases. Fainting was present in 1 case only. Fever was found in 3 cases and dysuria in 3 cases, due to pressure. Amenorrhoea was present in 70% of cases, of 6 weeks in 1 case, of 8 weeks in 2 cases, of 16 weeks in 2 cases, of 28 weeks in 1 case and 36 weeks in 1. In the remaining 3 cases history of amenorrhoea was absent.

Signs

Shock was present in 3 cases. Anaemia was severe in 3 cases while in others haemoglobin was fair in amount. Abdominal swelling was palpable in 8 cases, though foetal parts were palpable in only 2 cases of abdominal pregnancy.

On vaginal examination, extrauterine mass was felt in 4 cases while in 6 cases the body of the uterus could not be felt separate. The cervix was found displaced in 60% of cases. This sign is useful in the diagnosis of abdominal pregnancy.

Investigations

In 3 cases pregnancy was suspected and biological test (Male Toad test) was found positive in 1 case (where pregnancy was alive) while it was negative in 2 (found later to be dead pregnancy).

Straight X-ray examination of abdomen was done in 1 case and the abnormally high situation of the foetus raised suspicion of abdominal pregnancy.

Hystero-salpingogram was done in 1 case and was valuable in confirming the diagnosis of abdominal pregnancy (Figure 1).

Needling of the pouch of Douglas was done in 4 cases where ectopic pregnancy was suspected. Blood was found in 2 cases of ruptured sac while in 2 other cases clear fluid came out instead of blood. The fluid on scrutiny was found to be liquor amnii and the diagnosis of abdominal pregnancy became obvious. This factor is very interesting and I have not found mention of this anywhere in the literature.

Clinical Diagnosis

Correct diagnosis of abdominal pregnancy was made and confirmed in 1 case. In 4 cases ectopic pregancy was thought of but exact diagnosis of abdominal pregnancy was not considered.

Intrauterine dead foetus was diagnosed in 2, tubo-ovarian mass in 1, twisted ovarian cyst in 1 and degenerated fibroid in 1.

Treatment

Every case was treated by prompt laparotomy. In cases who had shock, proper resuscitative measures, with i.v. fluid, were taken before laparotomy. Adhesions were plenty in most of the cases. Sac with foetus was removed in all. Uterus was grossly adherent to the sac and adnexa and in 6 cases hysterectomy had to be performed. Large gut was

injured in 1 case while removing adhesions and was sutured immediately.

Placenta was removed in 9 cases and in one case the placenta was left undisturbed and abdomen closed without drainage.

Post-operative shock and infection were combated with i.v. fluid, blood and antibiotics.

Results

Gross maternal mortality was 3. Shock was severe in 1, where death occurred soon after the operation. Faecal fistula was cause of death in 1 case 40 days after operation. In 1 case patient was discharged cured but was readmitted 18 days after operation with symptoms of heart disease and died of coronary thrombosis. Excluding this case corrected maternal mortality is 20%.

Maternal morbidity—shock was the commonest complication and was present in 4 cases. Infection was severe in 4 cases. Paralytic ileus was expected in these cases and occurred in 1 case. Intestinal injury resulted in faecal fistula in 1 case. Where placenta was left inside, patient had an uneventful recovery.

Foetal prognosis: all the foetuses were stillborn, except 1 who died soon after operation due to extreme prematurity.

Discussion

Diagnosis of abdominal pregnancy before laparotomy is often missed. There are many factors to explain the difficulty in diagnosis. I feel that the most important point in diagnosis is to remember the possibility of such a condition. Scrutinising the symptoms and signs carefully in cases of pregnancy with abnormal features, will help to spot the diagnosis. Straight X-ray examination and hystero-salpingogram are undoubtedly useful in confirming the diagnosis but unfortunately these diagnostic aids are not called for unless one has already considered the possibility of abdominal pregnancy.

Treatment is laparotomy without delay, once the diagnosis is made. Consideration of delaying operation for the sake of maturity of the foetus, though advocated by some, does not appear justifiable in view of the high incidence of foetal congenital malformations and overall poor survival rate. Aim of operation is to remove the sac and foetus along with the placenta, and to conserve the uterus. But adhesions may be extensive and a hysterectomy may be unavoidable. In the present series 6 cases required hysterectomy.

Much controversy and difference of opinion has centred around the method of dealing with the placenta. If the implantation of placenta is such that complete separation is possible, removal is the best treatment. But in unfavourable conditions attempt at removal may mean severe haemorrhage and visceral injury and may directly be responsible for death. Marsupialisation does not seem justifiable. It is better to leave the placenta alone and close without drainage and my cases as well as those of others prove this to be a good method. It should be emphasised that foetal death does not mean "dead" placenta and attempt at removal of placenta even

after foetal death may be risky. Ware has reported biological test remaining positive till 35 days and 47 days after operation where placenta were left behind. Only after biological test is negative should placenta be considered dead and danger of haemorrhage negligible.

Abdominal drainage has been another point of controversy. In my opinion, now-a-days with antibiotics, there should be very few occasions for drainage except in frankly septic cases with plenty of infected material.

Though a few authors like Ware, Macgregor and King have reported series of cases with no maternal mortality, others experienced mortality as high as 37.5%, 25% (Ware) or 20% (my series). Mortality increases with late diagnosis, infection and rupture of the sac. Shock, haemorrhage and sepsis are the immediate causes of mortality. Blood and antibiotics in modern times should improve results.

Foetal results are poor indeed. In our series, 9 were stillborn and one had immediate neonatal death. Some authors have reported delivery of live babies but the incidence of congenital abnormalities is very high and only a small percentage of the babies born alive have lived. In Ware's series of 13 cases 5 babies were born alive and lived.

Suter et al (1948) reviewed literature for assessing foetal salvage. He found that 25% of abdominal pregnancies above 5 months resulted in living viable babies, 33% of these living babies were lost due to deformity and 50% of the surviving babies succumbed in the first week of neonatal period. Thus odds are much against the baby when it grows in the abdomen.

Repeated abdominal pregnancy is rare. Hazlett (1953) has reported one case of term pregnancy with both babies alive. Simultaneous abdominal and uterine pregnancies are rare indeed. Nandi (1953) and Weiner (1950) each reported 1 case.

Summary

A series of 10 cases of abdominal pregnancy are reported.

Incidence, pathology, clinical features, diagnosis, treatment and prognosis of 10 cases are analysed.

Short review of literature up to date is made. Total number of cases reported in world literature accessible to me is 740. Adding this series makes it 750.

Incidence in the present series was 1 in 24.5 of ectopic pregnancies and 1 in 7,249 of uterine pregnancy.

Two cases were of advanced pregnancy and 8 cases were in early pregnancy. There was 1 case of repeat ectopic pregnancy. Needling of pouch of Douglas in 2 cases demonstrated liquor amnii and helped diagnosis. I did not find mention of this anywhere in the literature.

Diagnosis was correct in 1, doubtful in 4 and wrong in 5 cases.

Each case was treated with prompt laparotomy. Placenta was left behind in 1 case and she had uneventful recovery.

Gross maternal mortality was 30%, while corrected mortality was 20%. Shock and fistula were causes of death.

Foetal results—all stillborn.

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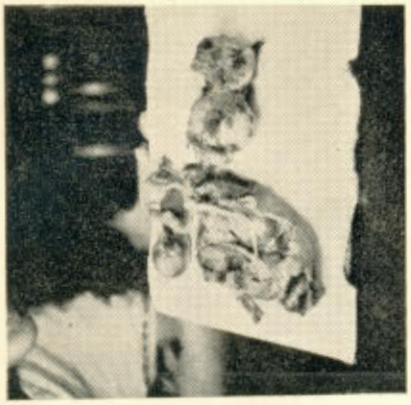

Fig. 1
Sac with placenta, foetus and uterus—
Case No. 3.

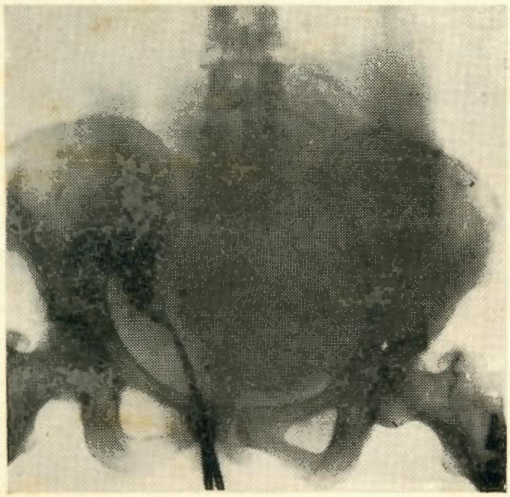

Fig. 2
Hysterosalpingogram Uterus normal size foetus
extrauterine—Case No. 5.

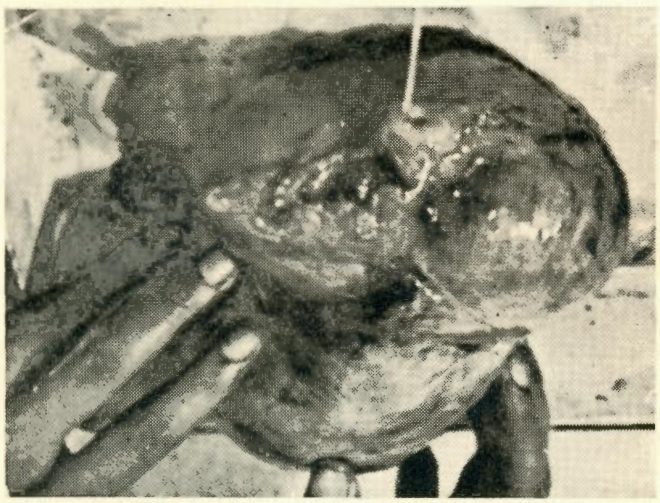

Fig. 3.
Gestation sac with uterus, Probe in cervical canal—
Case No. 5

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