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Original Research Article

Clinical profile and treatment outcome of non-surgical management of tubal ectopic pregnancy in a tertiary care hospital: retrospective study

Santoshi R. Prabhu*, Alekya Sabavat, Nigamananda Mishra

Department of Obstetrics and Gynaecology, Bhabha Atomic Research Centre Hospital, Mumbai, Maharashtra, India

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***Correspondence:**
Dr. Santoshi R. Prabhu,
E-mail: santoshi.prabhu@yahoo.co.in

ABSTRACT

Background: Tubal ectopic occurs when fertilized egg implants and develops in fallopian tube instead of normal endometrial cavity. Late diagnosis of condition leads to tubal rupture, life-threatening hemorrhage, warrants salpingectomy affecting future fertility of patient. When diagnosed early, non-surgical management can be offered preserving the tube. This study aimed to identify the factors which affect clinical course and treatment outcome of non-surgically managed tubal ectopic pregnancies.
Methods: A retrospective study was conducted on 56 tubal ectopics in Department of Obstetrics and Gynaecology, BARC Hospital, Mumbai from January 2017 to December 2023. Associated risk factors, clinical profile, treatment outcomes of all cases were analysed based on case sheets by simple descriptive statistics and percentage method.
Results: The 53.58% were in 31-40 years of age. The 46.42 % were multiparous. PID (20%) and assisted reproductive technology (ART) (17.5%) was identified risk factor. Pain in lower abdomen was commonest presenting symptom. Out of 56, 21 were (37.5%) eligible for non-surgical treatment. Of these 4 (19.05%) underwent successful expectant management. Remaining 17 (80.95%) received medical management with multidose methotrexate (MTX) of these 13 were successful. (success rate 76.47%). Remaining 4 failed medical cases eventually underwent salpingectomy. Overall success rate of non-surgically managed cases was 17 out of 21 being 80.95%. No drug induced morbidity or blood transfusion was required in non-surgically managed cases. No mortality was recorded.
Conclusions: 'Suspicion of ectopic pregnancy (EP) in reproductive aged woman seeking medical attention' is the key for its early diagnosis. Our study confirms non-surgical management: expectant or with multidose MTX is a viable therapeutic option in early tubal ectopic management with main advantage of preserving fallopian tube.

Keywords: Tubal EP, MTX, Non-surgical management

INTRODUCTION

Ectopic pregnancy (EP) occurs when the fertilized ovum implants outside the endometrial cavity with an incidence of 1-2% of all pregnancies.[1]According to literature, incidence of EP in all pregnancies ranges between 1/150 and 1/1000.[2] Several risk factors for EP have been recognized including pelvic inflammatory disease (PID), chlamydia infection, certain forms of contraception, smoking and other factors such as age, sociodemographic characteristics and reproductive history are thought to be involved.[3] Various sites of EP are fallopian tubes which is the most common site followed by ovarian, abdominal, cervical, intramural and cesarean scar. Although the incidence of EP is on rise in recent years the mortality rate is decreased due to wide spread use of transvaginal ultrasound and correlation due to ability to routinely test for serum beta-HCG. The ability to establish a diagnosis before rupture enables patients to benefit from medical and conservative surgical treatments.[4] We aim to analyze the clinical features and risk factors which affect treatment outcomes in diagnosed cases of tubal EP over the last 7 years.

The treatment options of EP include expectant management, medical management (with cytotoxic drugs

like MTX) and surgical options. Surgical option although considered as gold standard treatment, usually compromises future fertility either by salpingostomy or salpingectomy. Patients of EP who are hemodynamically stable and unruptured mass expectant and medical management with MTX can be attempted. A meta-analysis showed that expectant treatment was as effective as MTX in hemodynamically stable patients with EP that had declining or low hCG levels. There was no statistically significant difference noted in the hCG decline or the rate of switching to surgery.[5]

If the initial hCG value is less than 200 mIU/mL, the success rate of the expectant treatment can reach 88% but if more than 2000 mIU/ml then it is only 25%.[6] Lipscomb and colleagues found ectopic pregnancies measuring ≤4 cm and lacking cardiac activity were suitable candidates for medical management.[7]

EP is a common life threatening acute abdominal emergency.[8] A knowledge of the associated risk factors helps identify women at higher risk for tubal damage leading to tubal ectopic. This facilitates early, more accurate diagnosis with timely intervention.[9]

METHODS

In our study total of 56 cases with confirmed tubal EP were analyzed retrospectively, who were managed at BARC hospital, Mumbai in Department of Obstetrics and Gynaecology from January 2017 to December 2023. The study was approved by hospital ethical committee. All the medical data of patients was obtained from the hospital records, operation notes and discharge summaries. Data was recorded in structured proforma. Age of the patient, parity, risk factors like previous history of EP, PID, methods of contraception, assisted reproductive techniques etc, clinical presentation and examination, initial and serial serum β-hCG, USG findings and intraoperative findings in surgically managed patients were noted. Data across the study variables was classified by simple descriptive statistics and percentage method.

All our patients were admitted on suspicion of EP. Following blood tests were performed: complete blood count (CBC), blood group Rh type, serial serum β-hCG level at 48 hours interval (in haemodynamically stable patient) coagulation test, renal and liver function tests.

Serial serum β-hCG levels were performed after 48 hours for confirmative diagnosis of EP when initial levels were below the discriminatory zone (1500-2000 mIU/ml.) and transvaginal sonography (TVS) was not conclusive. These levels were also performed to track post MTX treatment response and to decide number of doses required.

Non-surgical management was offered to patients who were hemodynamically stable with TVS showing tubal mass less than 4 cm, no foetal cardiac activity, no evidence of haemoperitoneum.

When Serial serum β-hCG level at 48 hours interval showed falling trend expectant management was offered.

Medical management with IM MTX was offered when serial serum β-hCG level at 48 hours interval showed rising trend but less than 66% rise of initial levels were below the discriminatory zone or to patients satisfying non-surgical treatment criteria.

Medical management applied in our study consisted of multidose regimen of 1 mg of MTX/kg of body weight (intramuscular injection) was administrated with leucovorin (0.1 mg/kg) therapy on alternating days. After these 2 injections, a serum β-hCG test was repeated. Values between days 1 and 3 were anticipated to drop by ≥15%. If no drop was observed and surveillance tests were normal, an additional MTX/leucovorin pair was given. A serum β-hCG level was repeated 2 days later. Up to four doses were given maximum.

Transvaginal ultrasound was done at day 0, day 4 and day 7 to monitor this treatment regimen or earlier if suspected rupture. The medical treatment was considered successful if serum β-hCG level showed significant reduction without resorting to surgery, even if multiple MTX injections were needed.

The main criteria of failure of medical management were no fall serum β-hCG after total 4 doses of MTX or pain in lower abdomen and documented free fluid in peritoneum on TVS suspecting tubal rupture or abortion in the course of multidose regimen.

Surgical management was offered to ruptured EP, hemodynamic instability, low haemoglobin level, and heterotopic pregnancy, foetal cardiac activity documented on TVS and to all who had failed medical management. All patients were managed laparoscopically. Decision of salpingostomy or salpingectomy was taken depending upon intraop findings, condition of fallopian tube and considering patients fertility status.

RESULTS

This retrospective analytical study included total 56 patients diagnosed with tubal EP from time period January 2017 to December 2023.

Distribution of cases according to agewise distribution of all tubal ectopic pregnancies shows majority of patients 30 (53.58%) were in 31-40 years age group, followed by age group of 20-30 years which was 24 (42.85%) (Table 1).

Table 1: Distribution of cases according to age, (n=56).

Age (in years)	N	Percentage (%)
20-30	24	42.85
31-40	30	53.58
>40	2	3.57
Total	56	100

Parity wise distribution maximum number of patients 26 (46.42%) were multiparous (gravida 3 or more) followed by primigravidae which were 16 cases (28.57%) (Table 2).

Table 2: Parity wise distribution, (n=56).

Parity	N	Percentage (%)
PRIMI	16	28.57
G2	14	25
>G3	26	46.42
Total	56	100

Associated risk factor could be identified in 40 cases out of 56. In 16 cases no risk factor could be identified. The majority of the patients had PID 8 (20%) as risk factor followed by assisted reproductive techniques 7 (17.5%) previous history of abortions procedure, previous history of EP, use of emergency contraceptive pill consumption in the same cycle, with IUCD, history of tubal recanalization surgery, ovulation induction, past history of pulmonary tuberculosis were other associated risk factors (Table 3).

Table 3: Distribution of cases according to risk factors, (n=40).

Risk factor	N	Percentage (%)
PID	8	20
ART	7	17.5
Previous history of MTP/abortion	6	15
Hysterosalpingography	4	10
Previous history of ectopic pregnancy	3	7.5
History of emergency contraceptive pill consumption in same cycle	3	7.5
With intrauterine contraceptive device	3	7.5
History of tubal recanalization	2	5
Ovulation induction	2	5
History of pulmonary TB	2	5
Total	40	100

*No associated risk factor identified in remaining 16 cases.

Maximum number of cases presented with complain of pain in lower abdomen which were total number of 27 cases contributing to 48.21% followed by spotting per vaginum which were 11 cases with 19.64%. Total cases distributed based on clinical presentation are described in Table 4. All EP were diagnosed clinically, urine pregnancy test being positive by transvaginal ultrasonography and by serial serum β-hCG levels (Table 4).

Out of 56 tubal ectopic pregnancies 21 (37.5%) were eligible for non-surgical treatment. Out of these 21 cases 4 (19.05%) underwent expectant management and were managed successfully. Remaining 17 (80.95%) underwent medical management multidose regimen of MTX. Out of these 17 medically treated cases, 13 were treated successfully with success rate being 76.47%. Remaining 4 were eventually underwent salpingectomy due to failed medical management. Overall success rate of non-surgically managed cases was 17 out of 21 being 80.95%. The 35 out of 56 cases required surgical management primarily. The 33 patients underwent salpingectomy and 2 patients underwent conservative surgery i.e., salpingostomy (Table 5).

Table 4: Clinical presentation, (n=56).

Clinical presentation	N	Percentage (%)
Only pain in abdomen	27	48.21
Only spotting PV	11	19.64
Lower abdominal pain+ spotting PV	7	12.5
Amenorrhoea + lower abdominal pain	5	8.92
Amenorrhoea+ lower abdominal pain+ spotting PV	4	7.14
Amenorrhoea but no other symptoms of pain/spotting	2	3.57
Total	56	100

Table 5: Mode of management, (n=56).

Management	N	Percentage (%)
Expectant management	4	7.14
Successful medical management	13	23.21
Failed medical management converted to surgical management (Eventual salpingectomy)	4	7.14
Primary salpingectomy	33	58.92
Primary salpingostomy	2	3.57
Total	56	100

Four patients were managed expectantly successfully. Their gestational age ranged between 5.3 to 6.1 weeks. All were symptomatic but were haemodynamically stable. The initial levels of serum β-hCG were between 224 to 977 mIU/ml. Mass size varied between 0.4×0.75 to 1.9×2.3 cm. Subsequent levels of serum β-hCG after 48 hours were in falling trend hence managed expectantly by observation only (Table 6).

Out of 13 patients who had successful medical management had gestational range between 4.6 to 7.4 weeks. All were symptomatic but were haemodynamically stable. Three had only pain in lower abdomen. 2 had pain with spotting PV, 4 reported with amenorrhoea and pain in lower abdomen.3 had triad of amenorrhoea, pain and spotting PV, one patient with IUCD in utero presented with only amenorrhoea. The initial levels of serum β-hCG were between 289.8 to 8709.80 mIU/ml. Maximum mass size recorded was 2.1×2.3 cm with no cardiac activity. In 4

patients below the discriminatory zone serum β-hCG was repeated after 48 hours pretreatment. Out of 13 patients, 3 responded to one dose, 2 responded to two doses, 3 doses and 4 doses were needed for 4 patients each for successful medical management (Table 7).

Four out of 13 patients who underwent medical management with MTX injections failed to respond to it and converted to surgical management subsequently. The gestation age of the EP, initial levels of β-hCG values, size of the ectopic mass on USG, all received multidose regimen, site of the EP and the exact surgical treatment offered. Hence through this study we can understand the factors which were responsible for the failure of medical management of patients in our study population. Gestational age ranged between 5+3 weeks to the 8+1 week. Initial ranged between 2153 to 4,168 mIU/ml. Mass size ranged between 1.1×1.3 to 3×3 cm. All of them received multidose regimen of MTX. Out of 4 patients three had tubal abortion leading to haemoperitoneum and acute pain whereas one had tubal rupture at ampullary-isthmic junction. All underwent the salpingectomy (Table 8).

Three patients required blood transfusion During medical management of multidose MTX no patient reported adverse reaction to drug. There was no reported mortality during our study period (Table 9).

Table 6: Expectant management, (n=4).

Gestation age	Initial clinical presentation	Initial serum β-hCG values (mIU/ml)	Size of mass (on TVS in cm)	Subsequent serum β-hCG values after 48 hours (mIU/ml)
5+3 weeks	Spotting PV	977	1.2×2.1	648
6+1weeks	Pain in abdomen	224	1.9×2.3	186
6 weeks	Pain in abdomen+ spotting PV	539	0.4×0.75	334
5+6 weeks	Amenorrhoea+ pain in abdomen	376	0.5×0.66	207

Table 7: Successful medical management, (n=13).

Gestational age in weeks by LMP	Initial clinical presentation	Initial serum β-hCG values (mIU/ml)	Size of mass (on TVS in cm)	Subsequent serum β-hCG values after 48 h (mIU/ml)	Number of methotrexate doses required
6	Pain in lower abdomen+ spotting PV	289.8	0.4 well defined ectopic gestational sac in rt adnexa	406 (pretreatment)	Single
6.5	Pain in lower abdomen	431	1.8×1.9	617 (pretreatment)	Single
6.3	Only amenorrhoea (history of IUCD insertion)	842.23	1.9×1.7 extrauterine gestational sac in rt adnexa. IUCD in utero	-	Three
6.6	Pain in lower abdomen	892.78	0.6 well defined ectopic gestational sac in lf adnexa	978.42 (pretreatment)	Two
6.6	Pain in lower abdomen	944.09	1.2×1.1 rt adnexal gestational sac. ET 5 mm	1095.76 (pretreatment)	Three
5.3	Pain in lower abdomen+ spotting PV (history of emergency contraceptive pill in same cycle)	1152.24	0.9×0.55 Lf adnexal gestational sac	422.75 (Post-treatment)	single
6.6	G3A2 amenorrhoea+ pain in lower abdomen+ spotting PV	2059.62	0.5×0.8 lf adnexal gestational sac	-	Four
7.1	Amenorrhoea pain in lower abdomen	2153	1.3×1.9 rt adnexal lesion	-	Three

Continued.

Gestational age in weeks by LMP	Initial clinical presentation	Initial serum β-hCG values (mIU/ml)	Size of mass (on TVS in cm)	Subsequent serum β-hCG values after 48 h (mIU/ml)	Number of methotrexate doses required
7.4	Amenorrhoea pain in lower abdomen	2296,52	2×1.5 lt adnexal lesion	-	Four
4.6	Amenorrhoea pain in lower abdomen (G3 A2history of pulm TB)	2452.95	1.2×1.2 lf adnexal gestational sac	-	Three
6.4	Amenorrhoea pain in lower abdomen (G3A1E1)	2630.18	1.1×1 lf adnexal gestational sac	-	Four
7	Amenorrhoea+ pain in lower abdomen+ spotting PV	2847.63	1.1×1.7 rt adnexal gestational sac	-	two
5.3	Amenorrhoea+ pain in lower abdomen+ spotting PV (history of pulm TB, prim infertility, clomiphene)	8709.80	0.75 lf adnexal gestational sac. with yolk sac. No cardiac activity. Mass size 2.1×2.3	-	Four

Table 8: Failed medical management, (n=4).

Gestation age in weeks by LMP	Initial clinical presentation	Initial serum β-hCG values (mIU/ml)	Size of mass (on TVS in cm)	Single or multidose regimen	Site of ectopic	Management
7+2	Amenorrhoea	4,168	3×3	Multidose (4)	Right sided tubal rupture at ampullary-isthmic junction	Right salpingectomy
5+3	Pain in abdomen	3257	1.1×1.3	Multidose (4)	Right sided tubal abortion	Right salpingectomy
8+1	Spotting PV	2837.31	1.3×2	Multidose (3)	Left sided tubal abortion	Left salpingectomy
7+1	Pain in abdomen	2153	1.2×1.6	Multidose (4)	Right sided tubal abortion	Right salpingectomy

Table 9: Complications during management, (n=56).

Complications	N
Blood transfusion	03
Methotrexate adverse reaction	00
Mortality	00

DISCUSSION

Management of tubal ectopic pregnancy presents several challenges to clinicians, requiring both prompt diagnosis and appropriate treatment decisions to prevent serious complications such as rupture, haemoperitoneum and loss of fertility.

The 56 cases of tubal ectopic pregnancies were diagnosed in the duration of our study versus 3219 of total pregnancies which makes its incidence 1.73% in our population. This is comparable with other Indian studies which have recorded incidence of ectopic pregnancies ranging from 1-2%.[10]

Incidence of ectopic pregnancy is on rise. This may be due to a number of factors: increased frequency of tubal infections, increase in the number of tubal operations and better facilities for diagnosis and treatment.[11]

We observed in our study that majority of patients were seen in the age group of 31-40 years of age i.e., 30 cases which contribute to 53.58% followed by age group of 20-30 years which were 24 cases (42.85%) and only 2 patients were reported above 40 years.

Maximum percentage 46.42% were multigravidae women with gravidity 3 or more in the present study followed by primiparous women 28.57% which is comparable with the study done by Samantaray et al where 70.68% were

multiparous women followed by primiparous women 28.30%. The high incidence of ectopic pregnancy in multiparous women in our study can be probably due to previous abortions, pelvic infections and tubal surgery resulting in tubal damage.[12]

Out of 56 tubal ectopic pregnancies 40 had identifiable risk factors. In 16 patients no risk factor could be found. PID was present in 20% of cases in our study which is similar to study conducted by Ilanjselvi et al 18.86% of the cases with ectopic pregnancy had history of PID.[13] In PID the ciliary motility and mucosa is damaged and inhibits the migration of embryo from the fallopian tube to uterus after fertilization. Other risk factors present in our study included history of ART (17.5%), previous history of abortions procedure, previous history of ectopic pregnancy, use of emergency contraceptive pill consumption in the same cycle, with IUCD, history of tubal recanalization surgery, ovulation induction, past history of pulmonary tuberculosis. These risk factors are associated with pathological changes in structure and function of fallopian tube. Importantly, they can be used for triaging patients for early diagnosis.

The common presenting symptom in our present study is lower abdominal pain in lower abdomen 27 cases (48.21%) followed by spotting per vaginum 11 cases (19.64%) which was similar to study conducted by shraddha Shetty et al.[14]

All patients were urine pregnancy test positive, serum β-hCG and transvaginal ultrasound was helpful in further confirmation of diagnosis. Studies have shown that Ultrasonography should be the initial investigation for symptomatic women in their first trimester; when the results are indeterminate, the serum β-hCG level should be measured. Serial measurement of β-hCG and progesterone concentrations may be useful when the diagnosis remains unclear.[15]

In our study all the cases of suspected tubal ectopic were admitted for further management irrespective of their haemodynamic status. After confirmation of diagnosis various treatment modalities were offered either non-surgical or surgical.

Non-surgical management included: expectant management or medical management. After confirmation of diagnosis of tubal ectopic when serum β-hCG level after 48 hours of initial value falling, expectant management was offered. Expectant management involved only close observation. In hemodynamically stable patients, when serum β-hCG level after 48 hours of initial value were rising <66%, medical management with multidose regimen of intramuscular injection 1 mg of MTX/kg of body weight with leucovorin (0.1 mg/kg) therapy on alternating days maximum 4 doses were offered.

Surgical management included laparoscopic salpingectomy or salpingostomy.

Out of 56 tubal ectopic pregnancies 21 (37.5%) were eligible for non-surgical treatment. Out of these 21 cases 4 (19.05%) underwent successful expectant management. Remaining 17 (80.95%) underwent medical management multidose regimen of MTX. Out of these17 medically treated cases, 13 were treated successfully with success rate being 76.47%. Remaining four were eventually underwent salpingectomy due to failed medical management. Overall success rate of non-surgically managed cases was 17 out of 21 being 80.95%. Thirty five out of 56 cases required surgical management primarily. Thirty three patients underwent salpingectomy and two patients underwent conservative surgery i.e., salpingostomy.

All 4 patients who were managed expectantly had gestational range between 5.3 to 6.1 weeks. All were symptomatic but were haemodynamically stable. The initial levels of serum β-hCG were between 224 to 977 mIU/ml. Mass size varied between 0.4×0.75 to 1.9×2.3 cm. Subsequent levels of serum β-hCG after 48 hours were in falling trend hence managed expectantly by observation only. Systematic review with individual participant data meta-analysis comparing MTX versus expectant management of tubal ectopic pregnancy performed by Sarah et al concluded no statistically significant difference between MTX and expectant management with serum β-hCG less than 2000 mIU/ml and initial expectant management could be the preferred strategy due to less side-effects.[16] In our study, similarly we had offered expectant management to women with low initial serum β-hCG (less than 1000 mIU/ml) and further following levels which must be the reason for 100% success in all four cases.

As medical management needs prolonged hospital stay and close follow up, surgical management is the best choice of treatment in our country.[17] However, choice of treatment depends on early identification of ectopic pregnancy and haemodynamic stability of patients.[18] Out of 13 patients who had successful medical management had gestational range between 4.6 to 7.4 weeks. All were symptomatic but were haemodynamically stable. The initial levels of serum β-hCG were between 289.8 to 8709.8 mIU/ml. Values of these did not correspond with gestational age and had varied range at the initial presentation.

Mass size varied between 0.5×0.8 cm to 2.1×2.3 cm with no cardiac activity. Subsequent levels of serum β-hCG after 48 hours were rising (although less than 66% in each case) diagnostic of EP as was confirmed pretreatment in 4 cases below the discriminatory zone. Three of these 13 patients had only pain in lower abdomen. Two had pain with spotting PV, four reported with amenorrhoea and pain in lower abdomen. Only three had classical triad of amenorrhoea, pain and spotting PV diagnostic of ectopic pregnancy, one patient with IUCD in utero presented with only amenorrhoea.

History of IUCD insertion, history of emergency contraceptive pill in same cycle, previous abortions, previous tubal ectopic history of pulmonary tuberculosis, primary infertility, ovulation induction were associated risk factors. One patient with initial serum β-hCG as high as 8709.80 mIU/ml with TVS findings of 0.75 cm left adnexal gestational sac with yolk sac. No cardiac activity. Mass size 2.1×2.3 cm was also treated successfully with 4 doses MTX, leucovorin regimen.

Regarding single dose versus multidose MTX, Barnhart et al proved that a multi-dose protocol was more effective than a single-dose one.[19] All medically managed patients in our study were started with multidose regimen of MTX. Out of 13 patients, 3 responded to one dose, 2 responded to two doses, 3 doses and 4 doses were needed for 4 patients each for successful medical management.

A positive correlation between the initial levels of β-hCG and probable success of medical management has been documented by many studies. Failed medical management was reported when initial levels of β-hCG were above 1000 mIU/ml by Stika et al 2000 mIU/ ml by Sagiv et al and 5000 mIU/ ml by Menon et al.[20-22]

In our study 4 patients had failed medical management. We considered failure of medical management when patient had exacerbation of pelvic pain and documented haemoperitoneum on TVS during the course of medical management suspecting a tubal rupture/ abortion. The exacerbated pelvic pain is commonly experienced after MTX injection. This coincides with the necrosis of pregnancy or the tubal abortion. The separation pain was commonly observed by Lipscomb et al in their study of single dose MTX.[23] This pain should be differentiated from the tubal rupture that can occur at any time during medical management.

Out of 13 patients who underwent medical management with multidose MTX but failed to respond to it and converted to surgical management subsequently. All these cases had gestational age ranged between 5+3 weeks to 8+1 week. Initial β-hCG ranged between 2153 to 4,168 mIU/ml. Mass size ranged between 1.1×1.3 to 3×3 cm. All of them received multidose regimen of MTX up to four doses.

Out of 4 patients with failed medical management 3 were tubal ectopic pregnancies on right side and only one was on left side. Three had tubal abortion with active bleeding from fimbrial end leading to haemoperitoneum and acute pelvic pain. One patient who had 7+2 weeks of gestation with 3×3 cm mass size and initial levels of β-hCG 4,168 mIU/ml received 4 doses of MTX had tubal rupture. Intra-operative findings showed site of ectopic was ampullary isthmic junction. Failure and high initial levels of β-hCG could be justified in this case as ampulla being the widest part of fallopian tube rupture occurs late in these ectopic sites. The reason for failed medical management in our study can be contributed to the site of ectopic towards fimbrial end with distention leading to tubal abortions which mimicked ruptured ectopic due to hemoperitoneum. All underwent salpingectomy. No patient in failed medical management and haemoperitoneum required blood transfusion as were detected early due to vigilant monitoring.

Three patients who required blood transfusion were primarily managed by surgical modality due to presence of haemoperitoneum and shock. None of the failed medical management patients who required surgical intervention needed blood transfusion as tubal rupture and abortion was detected early. Medical management with MTX can cause multiple adverse effects like nausea, anaemia, neutropenia, thrombocytopenia, stomatitis, mucositis, hepatitis, renal impairment and pneumonitis.[24] In our study, all patients reported nausea on enquiry but no other adverse effects of MTX were observed.

Mortality ratio for women diagnosed with tubal ectopic is 0.4 per 100,000 live births in the UK and 0.5 per 100,000 live births in the US.[25,26]

‘Mothers and babies: reducing risk through audits and confidential enquiries across the UK’ (MBRRACE-UK) showed that 4.8% of all direct maternal deaths were related to tubal ectopic pregnancy. It was also reported that in 5 out of the 9 cases other diagnoses were suspected and that earlier consideration of tubal ectopic could have prevented some of these deaths.[27] There was no reported mortality during our study period.

CONCLUSION

Suspicion of ectopic pregnancy in reproductive aged woman seeking medical attention is the key for its early diagnosis. When diagnosed early non-surgical management expectant/ medical can be offered in haemodynamically stable patient. If subsequent levels of serum β-hCG are falling then expectant management can be offered. Expectant management avoids over-intervention in cases where there is a low risk of tubal rupture and possibility of spontaneous resorption of tubal ectopic. Medical management using multidose MTX is a viable option for small tubal ectopic pregnancies in stable patient and shows subsequent rise after 48 hours but not doubling. It is effective and without the major adverse effects. Although laparoscopic surgical intervention is the gold standard in management of tubal ectopic pregnancies, our study confirms the role of non-surgical management in selected cases has main advantage of preserving fallopian tube.

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