

# Evaluation of ectopic pregnancy in Al- Salam Hospital in Mosul city

Sada Azawi Yahya

Al- Salam hospital, Mosul Directorate of Health, Ministry of Health, Mosul, Iraq

Correspondence to: Sada Azawi Yahya (Sadayahya66@gmail.com )

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## Abstract

**Objective** This study aimed to give understanding and knowledge about ectopic pregnancy (EP), its common signs and symptoms, risks factors and most cite occur in it and management in Mosul city.

**Methods** A cross-sectional study in which 88 females attended to Al-Salam hospital in Mosul city from 2017 to 2019. All females with current EP included and any women with no EP has been excluded.

**Results** Mean age was  $28.7 \pm 6$  years old, 59% of females were at age group 21–30 years old 27% of them at age group 31–40 years old and 10 % in age group 11–20 years old. The main complaint of females include: abdominal pain (31.8%), abdominal pain and bleeding (23.9%), irregular bleeding (17%) and other complain. Type of infertility of females: no infertility (61.4 %), primary (21.6 %) and secondary (17.0%). 45.5 % of females had infection and all females history of operation was ovarian cyst (6.8%), appendicitis (11.4 %), ART (13.6%) and 55.7% of them with no any history of previous operation. 86% of females got pregnancy by normal ways and 14% got by IVF. 97% of females with no history of previous EP. 14% of them use contraception ( pills 3%, IUCDS 7%, injectable 4%). 37.5% of females in our study with no baby while 24% with 1 baby and 19% with 2 and above 3 babies, respectively. 35% of females with history of previous abortion (24% 1 abortion, 8% 2 abortion, 2% 3 abortion and 1% 4 abortion). 91% of females with destruction of fallopian tube (53% left side, 43% right side and 4% other part). 98% of females with surgical treatment (Salpingectomy) while other 2% of them treated as medical treatment.

**Conclusion** There is increase in incidence of EP and decrease in mother death. Main manifestations are abdominal pain, abdominal pain and bleeding and irregular bleeding. So early diagnosis of females lead to decrease mortality and rapid surgical intervention decreases mortality and complication.

**Keywords** Evaluation, ectopic pregnancy, Mosul city

## Introduction

Ectopic pregnancy (EP) is very usual severe acute abdominal damage occur in females that all gynecologist were facing in daily work in gynecology and obstetrics unit. Therefore, EP is mostly reason of mother mortality in all word and especially in developing countries, where all patients come with delay status associated with hemodynamic instability and rapture of EP.<sup>1</sup> It is considered as life-threatening condition if left without treatment efficiently and as soon as possible, due to the effect on female fertility and lead to damage to vital reproductive organs (fallopian tubes as well as ovaries and occasionally uterus). Many women come with the same signs and symptoms of EP but few of them have different signs and symptoms and diagnosed as EP. So, this makes EP remarkable and interesting illness that with time become more difficult for diagnosis and management.<sup>2</sup>

Few studies that showed the viability of pregnancy outside uterus but only intrauterine pregnancy is still live. 95% of EP occur inside fallopian tube (ampulla or isthmic part of FT) (Howkins & Bourne 2018). 2–3% of EP occurs in intestine, other parts where EP occur are peritoneum, cervix and fimbria as well as ovary and old scar of caesarean operation. Sometimes, EP and IU pregnancy come together and this called heterotopic gestation. It is rare and occurs 1 case for 30000 cases.<sup>4</sup>

EP is considered the most cause of death in females in first trimester (10–15%) of death of mother.<sup>5</sup> The sooner the diagnosis and management of EP lead to decrease rupture of EP and makes medical treatment of not rapture EP very easy and definitive, even before the sign and symptom in highly

risky female appear.<sup>6,7</sup> The cause of high incidence of EP is still unremarkable but many studies showed there are significant association between EP and pelvic inflammatory illness, drugs that induced ovulation, any prior operation of pelvic, IUCD.<sup>8</sup> The diagnosis of EP becomes more common but the incidence the rupture of EP is decrease due to HCG measurements, decrease invasive operations, and use US by Vagina.<sup>9</sup> So early and sooner, diagnosis makes the medical and conservative management very effective.<sup>10</sup> So, the aim of this study to give understanding and knowledge about EP, its common signs and symptoms, risks factors and most cite occur in it and management in Mosul city.

## Method

Retrospective biometry study in which 88 females attended to Al-Salam hospital in Mosul city from 2017 to 2019. All females with current EP were included and any women with no EP excluded. All data of females were taken from admission files in archive: age, type of infertility, any previous infection, any history of operation, how to get pregnancy, any previous history of EP, any history of previous used of contraception and what is type of contraception, gestational number, any previous history of abortion and no. of abortion, main complain of females, are the fallopian tubes distracted, what side of distraction, treatment type and finally, the type of operation if found.

Statistical analysis done by SPSS 22 where we take frequency and percentage of sociodemographic data and all variables. Chi square test was used to find the association between categorical variables, the significant association is defined when *p*-value less than 0.05.

## Results

Retrospective biometry study for 88 females with EP included in our study, mean age is  $28.7 \pm 6$  years old, 59% of females were at age group 21–30 years old, 27% of them at age group 31–40 years old and 10% in age group 11–20 years old as shown in Fig 1. According to Fig 2, the main complaints of females are: abdominal pain (31.8%), abdominal pain and

bleeding (23.9%), irregular bleeding (17%) and other complaints as shown in Fig 2.

According to Table 1, Type of infertility of females: no infertility (61.4%), primary (21.6%) and secondary (17.0%). 45.5% of females had infection and all females history of operation was ovarian cyst (6.8%), appendicitis (11.4%), ART (13.6%) and 55.7% of them with no history of previous operation. 86% of females get pregnancy by normal ways and 14%

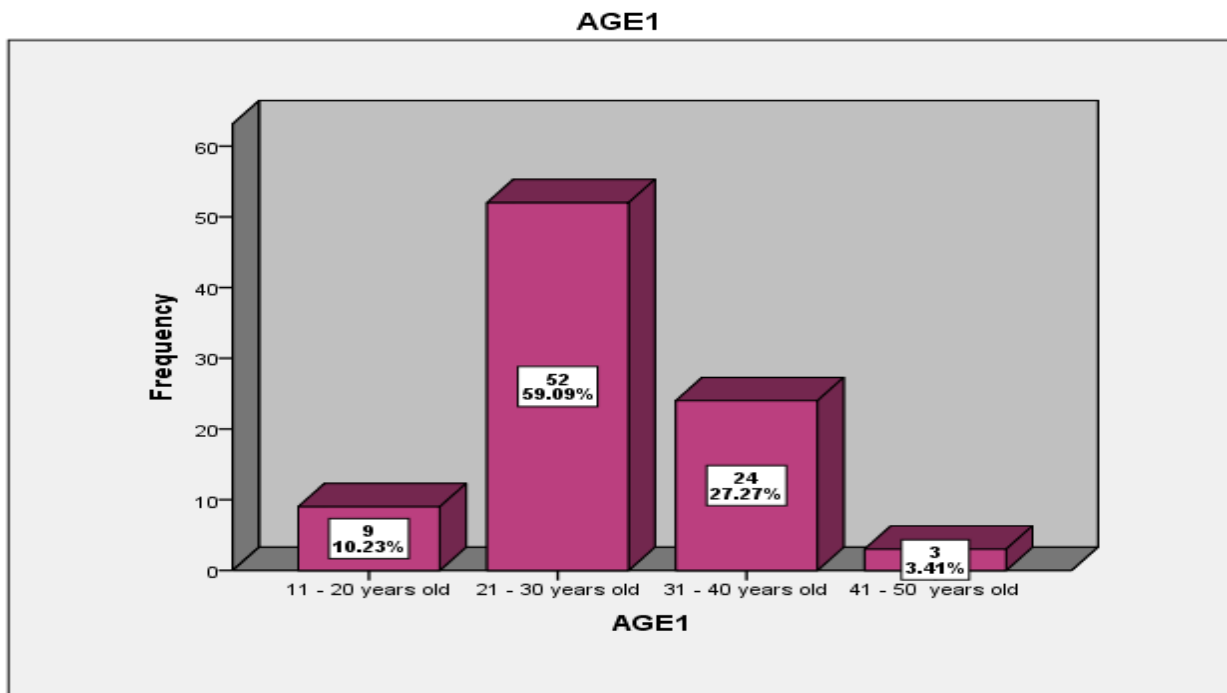


Fig. 1 Age groups distribution.

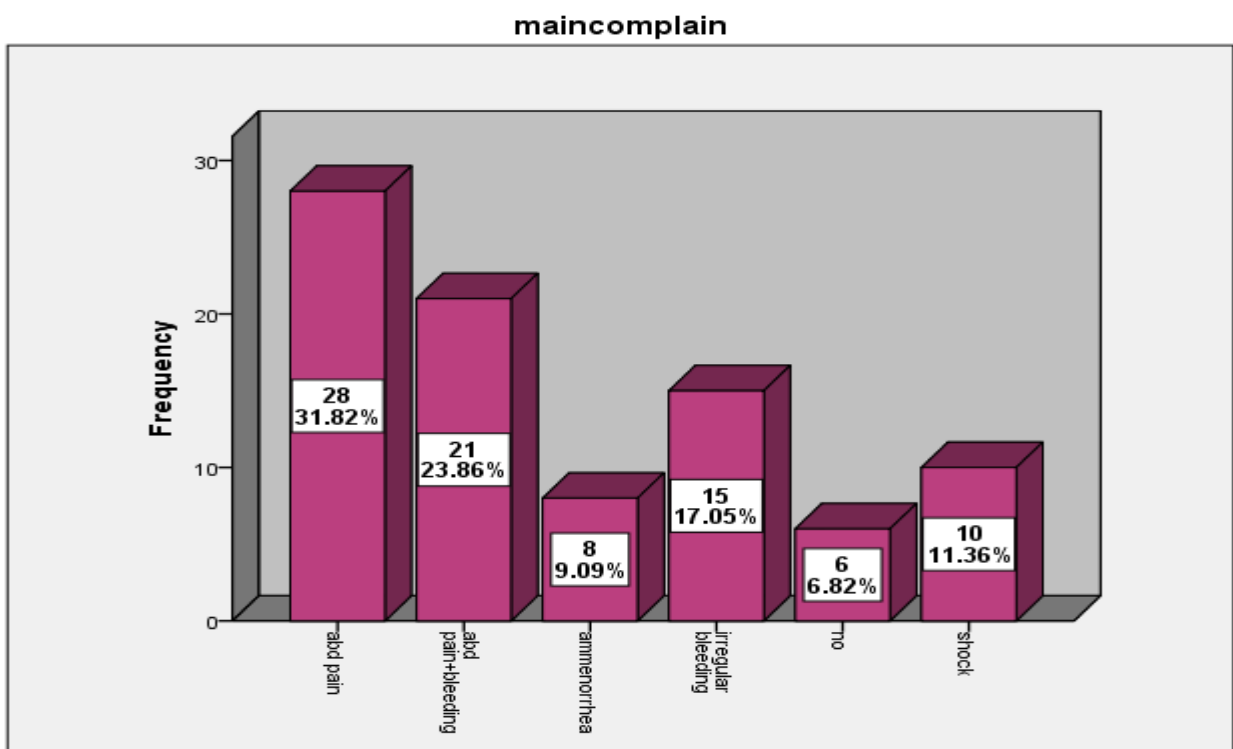


Fig. 2 Main complaint distribution.

get by IVF. 97% of females with no history of previous EP. 14% of them use contraception (pills 3%, IUCDS 7%, injectable 4%). 37.5% of females in our study with no baby, while 24% with 1 baby and 19% with 2 and above 3 babies, respectively. 35% of females with history of previous abortion (24% 1 abortion, 8% 2 abortion, 2% 3 abortion and 1% 4 abortion). 91% of females with destruction of fallopian tube (53% left side, 43% right side and 4% other part). 98% of females with surgical treatment (Salpingectomy) while other 2% of them treated as medical treatment.

From Table 2, there is significant association between main complaints and distraction of fallopian tube. 31% of female came with just abdominal pain and 26% of them came with main complain were abdominal pain with bleeding while 19% of female came with irregular bleeding. Also, there is

significant association between side of FT destruction and distraction of fallopian tube; 54% of female with left FT destruction while 46% with right side. In addition, there is significant association between treatment option and destruction of fallopian tube; where 100% of females with surgical treatment option.

From Table 3, there is significant association between age groups and type of infertility. 29% of females with primary infertility are at age group 21–30 years old and 13% of them at age group 31–40 years old. While 67% of females with secondary infertility are at age group 41–50 years old and 33% at age group 31–40 years old. Also, there is a significant association between age groups and history of abortion; 58% of females have abortion at age group 31–40 years old, 33% at age group 41–50 years old and 31% at age group 21–30 years old.

Table 1. Variables distribution.

Variables	Frequency	Percentage
<i>Type of infertility</i>		
<b>No</b>	54	61.4
<b>Primary</b>	19	21.6
<b>Secondary</b>	15	17.0
<i>Infection</i>		
<b>Yes</b>	40	45.5
<b>No</b>	48	54.5
<i>History of operation</i>		
<b>Ovarian cyst</b>	6	6.8
<b>Append</b>	10	11.4
<b>ART</b>	12	13.6
<b>No</b>	49	55.7
<i>Pregnancy</i>		
<b>IVF</b>	12	13.6
<b>Normal</b>	76	86.4
<i>History of EP</i>		
<b>Yes</b>	3	3.4
<b>No</b>	85	96.6
<i>Use of contraception</i>		
<b>Yes</b>	12	13.6
<b>No</b>	76	86.4
<i>Type of contraception</i>		
<b>Injection</b>	3	3.4
<b>IUCD</b>	6	6.8
<b>No</b>	76	86.4
<b>Pills</b>	3	3.4
<i>Gestational no.</i>		
<b>&gt;3</b>	17	19.3

Variables	Frequency	Percentage
<b>0</b>	33	37.5
<b>1</b>	17	19.3
<b>2</b>	21	23.9
<i>History of abortion</i>		
<b>Yes</b>	31	35.2
<b>No</b>	57	64.8
<i>No. of abortion</i>		
<b>0</b>	57	64.8
<b>1</b>	21	23.9
<b>2</b>	7	8.0
<b>3</b>	2	2.3
<b>4</b>	1	1.1
<i>Distraction of FT</i>		
<b>Yes</b>	80	90.9
<b>No</b>	8	9.1
<i>Side of FT. distraction</i>		
<b>Left</b>	47	53.4
<b>No</b>	3	3.4
<b>Right</b>	38	43.2
<i>Treatment by</i>		
<b>Medical</b>	2	2.3
<b>Surgery</b>	86	97.7
<i>Type of treatment</i>		
<b>Methotrexate</b>	2	2.3
<b>Milking</b>	3	3.4
<b>Removal of horn</b>	2	2.3
<b>Removal of ovary</b>	1	1.1
<b>Salpingectomy</b>	80	90.9

Table 2. Significant association between distraction of fallopian tube and other variables.

Main complain	Destruction of FT		P-value
	No	Yes	
<b>Abdominal pain</b>	3 (37.5%)	25 (31.3%)	
<b>Abdominal pain+ bleeding</b>	0 (0.0%)	21 (26.3%)	<b>0.002*</b>
<b>Amenorrhea</b>	2 (25.0%)	6 (7.5%)	
<b>Irregular bleeding</b>	0 (0.0%)	15 (18.8%)	
<b>No</b>	3 (37.5%)	3 (3.8%)	
<b>Shock</b>	0 (0.0%)	10 (12.5%)	
<b>Side of F.T. distraction</b>			
<b>Left</b>	4 (50.0%)	43 (53.8%)	
<b>No</b>	3 (37.5%)	0 (0%)	<b>0.0001**</b>
<b>Right</b>	1 (12.5%)	37 (46.3%)	
<b>Treatment</b>			
<b>Medical</b>	2 (25%)	0 (0%)	<b>0.007*</b>
<b>Surgical</b>	6 (75%)	80 (100%)	

\*p-value less than 0.05 (significant).

## Discussion

No. of EP become very high in the previous 20 years. This occurred because of many factors: many times of fallopian tube infection, multiple surgeries of tube for diagnosis and treatment. Therefore, the incidence of EP to intrauterine conception was 1–130. Total no. of EP occur in age 21–30 years old in females with parity 2–4 babies.<sup>11,12</sup> Studies showed that the infertility after EP was 7%<sup>(13,14)</sup>. 45% of females in our study are with PID. Other study showed that PID is considered as a very important cause of EP with incidence rate 4, 25 and 34% correspondingly.<sup>15,16</sup> For example, for PID are gonococcal and chlamydial infection may increase the risk of EP 3 to 6 times and females after chlamydial infection lead to FT damage and increase EP inside FT.<sup>17,18</sup> In our study, the incidence was more in young, null or little baby. Also, 11% of females with appendectomy or 7% with ovarian cyst operation. Also, 7% of females used IUCD and 3% used OCP this agreed with other study showed that increase in EP associated with high used of intrauterine instrument.<sup>19,20</sup>

Clinical features of not ruptured EP is not specific while most signs and symptom of EP occur after rapture of tube or abortion lead to bleeding inside peritoneal cavity. In current study, the main complaints are abdominal pain (31.8%), abdominal pain and bleeding (23.9%), irregular bleeding (17%) also amenorrhea and shock detected in the main complain but in little percentage. Clinical features of EP depend on many factors, Constance and Moravek<sup>22</sup> stated that females came with one or more than one symptoms, abdominal pain is most usual symptoms 94% of females came with it, 56% of females with bleeding per vagina and 92% of them with amenorrhea. 56% of ladies came with classical symptoms (abdominal pain, vaginal bleeding and amenorrhea). Other study also reported that classical symptoms occur in 54% and 66% correspondingly which means that classical symptom increase thought of EP.<sup>23</sup> Vaginal hemorrhage in other study represented 56%, 66% and 67% respectively.<sup>22, 24, 25</sup> Other symptoms that detected like nausea, vomiting and fainting attack also were detected in our study,<sup>26</sup> agreed with us that 31% of females came with vomiting and 18% with shock.

About the management of EP, most treatment was surgically 98% (salpingectomy), agreed with.<sup>27</sup> In our study, 35% of females with history of abortion while 24% of them with one previous abortion<sup>28,29</sup> agreed with our results.

Also in this study, 53% of females came with EP at left FT while 43% of them on right side and this agreed with<sup>2</sup> that stated Right tubal EP was present in 53.1% females and left tubal EP in 46.9% patients.

## Conclusion

There is increase in incidence of EP and decrease in mother death. The main manifestations are abdominal pain, abdominal pain and bleeding and irregular bleeding, so early diagnosis of females lead to decrease mortality and rapid surgical intervention decrease mortality and complication. All females came in late triad symptoms must be examined if there is rapture EP, so need emergency operation. Hence, all physicians must be careful about these signs and symptoms to diagnosis EP as soon as possible.

## Acknowledgment

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## No conflicts of interest.

Table 3. Significant association between age groups and other variables.

Type of infertility	Age groups				p-value
	11-20 years old	21-30 years old	31-40 years old	41-50 years old	
<b>No</b>	8 (88.9%)	32 (61.5%)	13 (54.2%)	1 (33.3%)	
<b>Primary</b>	1 (11.1%)	15 (28.8%)	3 (12.5%)	0 (0%)	<b>0.012*</b>
<b>Secondary</b>	0 (0%)	5 (9.6%)	8 (33.3%)	2 (66.7%)	
<b>History of abortion</b>					
<b>Yes</b>	0 (0%)	16 (30.8%)	14 (58.3%)	1 (33.3%)	<b>0.012*</b>
<b>No</b>	9 (100%)	36 (69.2%)	10 (41.7%)	2 (66.7%)	

\*p-value less than 0.05 (significant)

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