

Original Research Article

The relationship between age and parity of pregnant women with the incidence of disrupted ectopic pregnancy at Wangaya hospital

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ABSTRACT

Background: Ectopic pregnancy is a phenomenon in pregnancy where after being fertilized, the egg cell implants and grows in the outer area of the endometrium of the uterine cavity. All ectopic pregnancies are at risk for spontaneously ruptured ectopic pregnancies. The incidence of ectopic pregnancy in the world is 0.25-2.0% of all pregnancies. In Indonesia, cases of ectopic pregnancy range from 5-6 per thousand pregnancies. One of the factors that influence the incidence of disrupted ectopic pregnancy is the age of the pregnant woman.

Methods: A cross-sectional study was conducted at Wangaya regional general hospital in Denpasar among pregnant women with ruptured ectopic pregnancies between 2021 and 2022.

Results: Based on the age category, the incidence of disrupted ectopic pregnancy was most common in the age range of 20-35 years old. Based on the parity category, the incidence of disrupted ectopic pregnancy was most common in the multigravida category.

Conclusions: Based on age category, the incidence of disrupted ectopic pregnancy in Wangaya regional general Hospital in 2021-2022 mostly occurs at the age of 20-35 years, and based on the parity category of pregnant women, it is most common in multi gravida, which is found to be 65% of the total 40 cases.

Keywords: Disrupted ectopic pregnancy, Age, Parity, Risk factor

INTRODUCTION

Ectopic pregnancy is a phenomenon in pregnancy where after being fertilized, the egg cell implants and grows in the outer area of the endometrium of the uterine cavity.¹ All ectopic pregnancies are at risk for spontaneously ruptured ectopic pregnancies. Disrupted ectopic pregnancy is an urgent condition in obstetrics that requires immediate medical attention. Disrupted ectopic pregnancy can cause maternal morbidity and mortality and reduce reproductive function by increasing the risk of infertility.² The incidence of ectopic pregnancy in the world is 0.25-2.0% of all pregnancies.³ In North America, ectopic pregnancies occur in 19.7 cases out of 1000 pregnancies, and are the leading cause of mortality in the first trimester of pregnancy. In Indonesia, cases of ectopic pregnancy range from 5-6 per thousand pregnancies.⁴ According to a preliminary study at the Wangaya hospital, Denpasar City, from 2019 to

2020, there were 79 cases of interrupted ectopic pregnancy (1.71%) from all obstetric patients in the Emergency Room.⁵ One of the factors that influence the incidence of disrupted ectopic pregnancy is the age of the pregnant woman.⁶

METHODS

A cross-sectional study was conducted at Wangaya regional general hospital in Denpasar among pregnant women with ruptured ectopic pregnancies between 2021 and 2022 who met the inclusion and exclusion criteria. The inclusion criteria of this study was data laparotomy on medical records, while the exclusion criteria was incomplete medical record. The study protocol was approved by the health research ethics committee of Wangaya regional general hospital (No. 070/4492/RSUDW). The minimum number of samples

from the sample size calculation for paired categorical research is 38. To avoid research bias, the number of samples is rounded off from the minimum sample size to 40 people. Univariate analysis was carried out.

RESULTS

Based on the age category, the incidence of disrupted ectopic pregnancy was most common in the age range of 20-35 years old (31 patients). The age group with the least incidence of disrupted ectopic pregnancy was <20 years old (1 patient). The incidence of disrupted ectopic pregnancy in age >35 years old was 8 patients (Figure 1).

Based on the parity category, the incidence of disrupted ectopic pregnancy was most common in the multigravida category (26 patients). The age group with the least incidence of disrupted ectopic pregnancy was the grand multigravida category (4 patients). The incidence of disrupted ectopic pregnancy in the primigravida category was 10 patients (Figure 2).

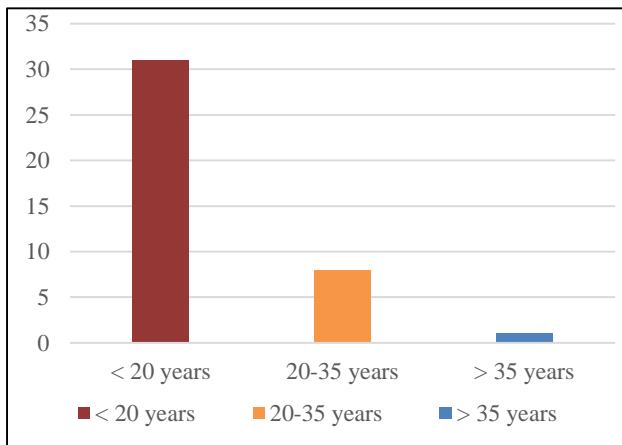


Figure 1: Age frequency distribution in disrupted ectopic pregnancy patients in Wangaya regional general hospital.

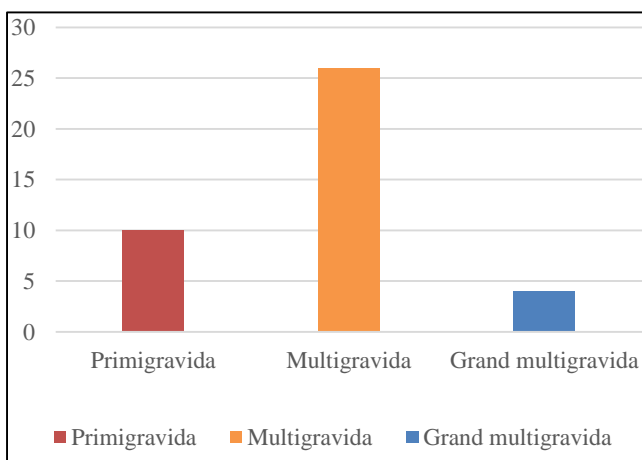


Figure 2: Parity frequency distribution in disrupted ectopic pregnancy patients in Wangaya regional general hospital.

DISCUSSION

Based on the age category, the incidence of disrupted ectopic pregnancy is most common at the age of 20-35 years old. The results of this study are not in line with the research of Triana and Asyima which stated that mothers who experienced disrupted ectopic pregnancy were mostly aged < 20 years old and > 35 years old.^{6,7} Pregnancy at age of less than 20 years have a high risk of complications in pregnancy due to the immaturity of the reproductive organs. Meanwhile, pregnancy at the age of more than 35 years also have a high risk of complications because of the decreased function of the female reproductive organs.⁸ With increasing age, the risk of disrupted ectopic pregnancy also increases which results in decreased tubal myoelectric activity. The tubal peristaltic movement becomes sluggish, so that the implantation of the zygote occurs before the zygote reaches the uterine cavity.⁷ The results of this study are in line with a research conducted by Tarigan in 2016 which found that the incidence of interrupted ectopic pregnancy occurred at an average age of 32.03 years, standard deviation 6.491 years, the youngest age 19 years and the oldest 44 years.⁹ The results of this study are also in line with the research of Yadav et al who found the incidence of disrupted ectopic pregnancy occurred at an average age of 29.15 years with a standard deviation of 5.10 years.³ The research showed that the majority disrupted ectopic pregnancy incidence was at the age of 25-34 years. Women age 20-35 years have higher risk for pregnancy complications, such as disrupted ectopic pregnancy, because of the productive age. According to Nirmalasari et al the age group of 25-49 years is a sexually active group and the mobility in that age group is also high.¹⁰ This is in line with the research of Hendri et al who found a tendency of increased risk of sexually transmitted infections, such as chlamydia trachomatis and pelvic inflammatory disease in married women between 20-35 years, which was around 64%.¹¹ This can result in an increased incidence of disrupted ectopic pregnancy because infection can result in tubal adhesions, tubal occlusion or blockage, fimbrial phimosis, or hydrosalpinx. Hydrosalpinx is a condition that occurs when the fallopian tubes are filled with serosa or fluid, resulting in swelling of the tubes.¹²

Based on the parity category of pregnant women, the incidence of disrupted ectopic pregnancy was the most common in multigravida, which was 65%. The results of this study are in line with Prasanna et.al. who found that the incidence of disrupted ectopic pregnancy was most common in multigravida (84%).¹³ This was associated with the possibility of previous abortions and infection in the tubal area. The results of this study are also in line with the research of Santoso which found the highest incidence of ectopic pregnancy was in the second gravida (34.34%) compared to the first gravida (32.2%).¹⁴ This is supported by the results of this study which found that the incidence of disrupted ectopic pregnancy almost entirely occurred in the fallopian tube, especially the ampulla (87.9%) and history of abortion 34.8%. Abortion can cause infection in

the uterus or damage to the uterine wall, especially in repeated abortions.² This is in line with the research of Sariroh and Primariawan which showed that disrupted ectopic pregnancy is mostly caused by damage to the tube or tubal blockage.¹⁵ Apart from sexually transmitted infections and pelvic inflammatory disease, damage to the tubes can be caused by endometriosis and fibroids.

CONCLUSION

The conclusion that can be obtained from this study is that based on age category, the incidence of disrupted ectopic pregnancy in Wangaya regional general hospital in 2021-2022 mostly occurs at the age of 20-35 years, and based on the parity category of pregnant women, it is most common in multi gravida, which is found to be 65% of the total 40 cases. We acknowledge that an important limitation to our study is the small sample size, which may also have impact on observed statistical significance.

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