



COMMENT ABOUT IN VITRO FERTILIZATION (IVF) PREGNANCIES DELIVERIED AT NATIONAL HOSPITAL OF OBSTETRICS AND GYNECOLOGY IN 2022

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Objectives: To determine the rate of in vitro fertilization giving birth at National Hospital of Obstetrics and Gynecology in 2022; Comments on the attitude of handling cases of in vitro fertilization giving birth with preterm labor and the attitude of handling in vitro fertilization at term.

Methods: cross-sectional description.

Results: The birth rate of in vitro fertilization at the hospital in 2022 was 8.79%. The multiple pregnancy rate of in vitro fertilization accounted for 5.1% of the total number of births and accounted for 58.04% of the total number of multiple pregnancies, the rate of natural twin mothers accounted for 48%. The cases of twin birth with gestational age over 38 weeks accounted for 26.1%, the remaining 73.9% were preterm twins. The cesarean section rate was 61.5%, normal delivery was 38.3%. Among the cases of vaginal delivery, uterine atony had to transfuse blood accounted for 1.08%; among the pregnant women who had to undergo cesarean section, uterine atony, hemorrhage had to transfuse blood accounted for 0.8%.

Conclusion: The birth rate of in vitro fertilization at National Hospital of Obstetrics and Gynecology in 2022 was 8.79%. The attitude of handling is mainly cesarean delivery when the fetus is full-term or preterm labor at a gestational age that can survive.

Keywords: *In vitro fertilization.*

INTRODUCTION

In vitro fertilization is a rare and increasing pregnancy trend in recent years. Most cases of in vitro fertilization are high-risk pregnancies because they are usually performed in infertile couples, often carrying multiple fetuses, having a higher risk of preterm birth and therefore the treatment attitude for in vitro fertilization cases is different from normal. Therefore, we studied: "Comment about in vitro fertilization (IVF) pregnancies delivered at National Hospital of Obstetrics and Gynecology in 2022" with the following objectives:

1. Determine the rate of in vitro fertilization born at the National Hospital of Obstetrics and Gynecology in 2022.

2. Comment on the treatment attitude for in vitro fertilization cases that transfer to preterm labor and the treatment attitude for full-term in vitro fertilization cases.

OBJECTIVES AND METHODS

Objectives: All cases of in vitro fertilization born at the National Hospital of Obstetrics and Gynecology in 2022.

Selected criteria: All cases of in vitro fertilization with gestational age of 22 weeks were followed up for labor and delivery at the National Hospital of Obstetrics and Gynecology in 2022.

Exclusion criteria: The records do not have enough information for this study.

Research method: descriptive cross-sectional

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RESULTS AND DISCUSSION

The birth rate of in vitro fertilization at the National Hospital of Obstetrics and Gynecology in 2022.

In 2022, there were 1344 cases of in vitro fertilization out of a total of 15 289 cases of delivery at the National Hospital of Obstetrics and Gynecology. The birth rate of in vitro fertilization was 8.79%.

In 2022, there were 1403 cases of multiple pregnancy delivered at the Central Obstetrics and Gynecology Hospital, of which 623 cases were natural or IUI multiple pregnancy and 780 cases were in vitro fertilization multiple pregnancy. The multiple pregnancy rate of in vitro fertilization accounted for 5.1% of the total number of deliveries and accounted for 58.04% of the total number of multiple pregnancies.

Table 1. The rate of in vitro fertilization normal delivery by gestational age at birth

Gestational age at birth	IVF		Normal		Total	
	No.	%	No.	%	No.	%
22 - 27	69	5.1	441	3.1	510	3.3
28 - 32	102	7.6	601	4.2	703	4.5
33 - 36	187	13.9	1041	7.3	1228	7.9
36 - 38	429	31.9	2453	17.2	2882	18.5
≥ 38	557	41.4	9724	68.2	10281	65.9
Total	1344	100	14260	100	15604	100

Antibiotic resistance rates of common bacteria

Table 2. The rate of in vitro fertilization cesarean delivery by gestational age at birth

Gestational age at birth	IVF		Normal		Total	
	No.	%	No.	%	No.	%
22 - 27	10	1.0	86	1.1	96	1.1
28 - 32	66	6.3	390	5.1	456	5.3
33 - 36	144	13.7	711	9.3	855	9.9
36 - 38	328	31.2	1504	19.7	1832	21.1
≥ 38	502	47.8	4925	64.7	5427	62.6
Total	1050	100	7616	100	8666	100

In the two years 2006 and 2007, the number of pregnant women who gave birth at the National Hospital of Obstetrics and Gynecology was 37,382 pregnant women and the number of pregnant women who gave birth to twins was 699 pregnant women, the rate of twin birth was 1.87%¹. After 10 years, according to our study in 2016, the rate of twin birth at the National Hospital of Obstetrics and Gynecology was 4.83%. The difference between these two rates was statistically significant with $p < 0.05$.

The reason for this difference, according to us, is mainly due to the widespread application of assisted reproductive methods in recent years, such as using ovulation stimulation drugs for infertile cases, transferring multiple embryos when doing IVF. Moreover, the twin mothers who had assisted reproduction were those who had longed for children for many years, so the psychology of the mother always wanted to choose to give birth in the most specialized and prestigious place. On the other hand, because the National Hospital of Obstetrics and Gynecology is the highest treatment level, capable of treating newborns with low weight and gestational age, it is



often chosen by twin mothers who are high-risk pregnancies. This explains why the rate of twins at our hospital is higher than the general rate of the whole country.

The rate of twin birth by conception method

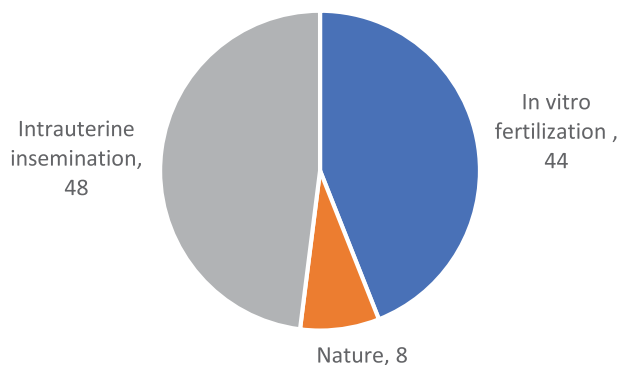


Chart 1. The rate of twin birth by conception method

According to our research results, the rate of natural twin birth only accounted for 48%, the rest of the mothers in the study used assisted reproductive methods including intrauterine insemination or in vitro fertilization. This shows that we have widely used assisted reproductive methods to help infertile cases at the present time.

The distribution of preterm twin birth by gestational age at birth

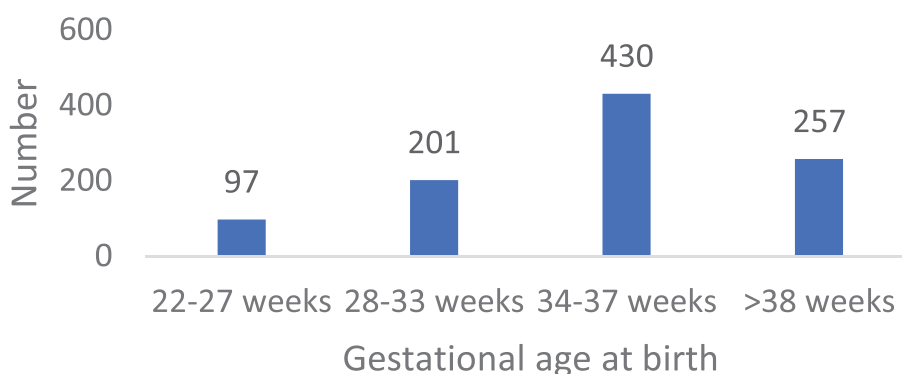


Chart 2. The distribution of preterm twin birth by gestational age at birth

Of the 985 cases of twin birth, there were 257 cases of twin birth with gestational age over 38 weeks, accounting for 26.1%, the remaining 73.9% were preterm twins, according to. Comparing this research result with the research result of the authors Le Hoang and Nguyen Quoc Tuan, the rate of preterm twins was 55.4%², there was a clear difference. We believe that this difference is mainly due to the way of determining gestational age (the initial gestational age milestone) and on the other hand, there is also doubt about the increase in preterm birth cases of twins using assisted reproductive methods. We believe that it is necessary to have a study on the rate and risk of preterm birth of cases using assisted reproductive methods, especially in vitro fertilization cases.

If we take the 34-week milestone as the milestone that can sustain most of the newborns after birth to evaluate the success of the methods of keeping the fetus, the preterm birth rate of twins before 34 weeks is still 30.3%. This result shows that twins are a form of pregnancy with a very high risk of preterm birth.

Twin mothers need to be fully counseled about the risk of preterm birth of twins and the risk of preterm newborns to have appropriate treatment and prevention measures such as using drugs to treat preterm labor, corticoids, prevention measures for preterm birth such as cervical cerclage, rest and reasonable nutrition.

Methods of handling when laboring

Table 3. Methods of handling when laboring

Antibiotic	No.	%
Normal delivery	377	38.3
Cesarean delivery	606	61.5
Vaginal delivery with surgical intervention	2	0.2
Total	985	100

According to our research results, the rate of cesarean delivery was 61.5%, higher than the results of Nguyen Thi Hanh (47.3%)³ and Nguyen Thi Kieu Oanh (47.2%)⁴. But equivalent to the results of the authors Juha's, Krasznai (the rate of cesarean delivery in twin birth was 68.6% in 2002 - 2003)⁵.

By gestational week, only 18/97 pregnant women with gestational age under 28 weeks underwent cesarean delivery, accounting for 18.6%. For cases with gestational age over 28 weeks, there were 580/865 cases of cesarean delivery, accounting for 67%. Especially if calculated from gestational age over 34 weeks, this is the gestational age considered as the milestone that the fetus can survive, there were 650/687 cases of cesarean delivery, accounting for 94%.

The methods of vaginal delivery with surgical intervention are decreasing. In 985 cases studied, there were 2 cases (accounting for 0.2%) that had to undergo cesarean delivery for the second fetus due to internal rotation, unsuccessful arm reduction. According to a study by American authors⁶, the rate of cesarean delivery for the second fetus after giving birth to the first fetus was 3% in the total number of twin births. The most common indication was transverse lie (46%) in the total number of cesarean delivery for the second fetus. According to French authors, the rate of cesarean delivery for the second fetus after giving birth to the first fetus was 6%. Compared with the studies of other authors, the rate of this study was much lower and thereby also showed the proficiency of the delivery teams. Cesarean delivery for the second fetus after giving birth to the first fetus vaginally is an involuntary and passive indication that is often beyond the expectation of the obstetrician. To minimize this situation, obstetricians must organize a professional twin delivery and neonatal resuscitation team. They must be very careful, examine to determine the position of the second fetus, right after the number of the first fetus, to assess and predict early the possibilities that may occur when giving birth to the second fetus to have an appropriate treatment attitude. contribute to reducing the lowest complications for the mother and fetus, thereby lowering the lowest neonatal mortality and avoidable severe consequences.

Complication

Table 4. The relationship between delivery method and maternal complication rate

Complication	Normal delivery		Cesarean delivery	
	n	%	n	%
Genital trauma	0	0	0	0
Uterine atony, blood transfusion	4	1.08	5	0.8
Hysterectomy	0	0	0	0

- In 377 cases of twin birth, there was no case of genital trauma and no case of hysterectomy.



- In 377 cases of vaginal delivery, there were 4 cases of uterine atony and bleeding that required blood transfusion, accounting for 1.08%, these cases stabilized after massage and using drugs to stimulate uterine elasticity and blood transfusion, no case required abdominal surgery to ligate the uterine artery and perform other procedures.

- With 606 pregnant women who had to undergo cesarean delivery, there were also 5 cases of uterine atony and bleeding that required blood transfusion, the rate was 0.8%. The patients stabilized afterwards without further intervention.

- From this research result, it shows that with twin birth cases, whether cesarean delivery or vaginal delivery, there is always a risk of uterine atony and bleeding. Therefore, it is necessary to actively examine clinically and perform exploratory tests to have a specific plan for labor cases, especially labor twin birth cases, such as: blood reserve before surgery, before delivery.

- Actively intervene positively in stage 3, maintain oxytocin infusion after delivery, after cesarean delivery and must be able to apply proficiently some methods of hemostasis such as: local hemostasis, hemostatic suture of placental area because in labor twin birth, the rate of low placenta is very high due to the wide placental area, ligate the uterine artery, ligate the inferior vena cava, Blynch suture and have a proficient resuscitation team to deal with complications. Coordinate smoothly between obstetricians and anesthesiologists to minimize severe complications affecting health and endangering the lives of pregnant women.

CONCLUSIONS

- The birth rate of in vitro fertilization at National Hospital of Obstetrics and Gynecology in 2022 was 8.79%. The multiple pregnancy rate of in vitro fertilization accounted for 5.1% of the total number of births and accounted for 58.04% of the total number of multiple pregnancies, the rate of natural twin mothers accounted for 48%. The cases of twin birth with gestational age over 38 weeks accounted for 26.1%, the remaining 73.9% were preterm twins.

- The attitude of handling twin pregnancy with preterm labor and twin pregnancy at term is mostly cesarean delivery when the fetus is full-term or preterm labor at a gestational age that can survive.

The cesarean section rate was 61.5%, normal delivery was 38.3%. Among the cases of vaginal delivery, uterine atony had to transfuse blood accounted for 1.08%; among the pregnant women who had to undergo cesarean section, uterine atony, hemorrhage had to transfuse blood accounted for 0.8%.

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