

Successful In-vitro Fertilisation/Intracytoplasmic Sperm Injection in a Patient with Unicornuate Uterus: A Case Report

Anupama Suwal,¹ Pramisha Baral,¹ Dhirendra Rokaya²

¹Department of Obstetrics and Gynecology, Nepal IVF and Fertility Center, Basundhara, Kathmandu, Nepal, ²KIST Medical College and Teaching Hospital, Imadol, Lalitpur, Nepal.

ABSTRACT

Most often the uterine developmental anomalies are missed until later in life presenting as infertility. This case report is of a couple presented with secondary infertility for four years. The wife had a unicornuate uterus with a left rudimentary horn which was diagnosed only at the time of cesarean section delivery. The husband had teratozoospermia. Two 5AA and 5AA blastocysts were transferred and at 5 weeks two gestational sacs along with a yolk sac and fetal heart pulsations were noted and the patient was under regular antenatal checkup. At 8 weeks of gestation, two gestational sacs were noted. However cardiac activity of only one twin was noted with the missed abortion of the other twin. The patient was under regular antenatal checkup and pregnancy was then continued till 37 weeks.

Keywords: *abortion, case reports, pregnancy complications, live birth.*

INTRODUCTION

A unicornuate uterus is a type of congenital uterine anomaly which results from the fusion defects of müllerian ducts during development.¹ The prevalence of unicornuate uterus accounts for 0.3% in the general population and 5-13% in the population with müllerian anomalies.² After undergoing in-vitro fertilisation and intracytoplasmic sperm injection (IVF-ICSI) treatment, women with unicornuate uterus have a lower clinical pregnancy and live birth rate than women with normal uterus.³ Preterm deliveries, ectopic pregnancies, atypical presentations, and miscarriages are among the obstetric issues that are linked to abnormal uterine blood flow, cervical incompetence, and decreased uterine muscle mass.^{1,4}

Here, we report a case of a successful IVF/ICSI in a patient with a unicornuate uterus with poor ovarian reserve and left rudimentary horn who underwent elective cesarean section and uneventful postoperative outcomes.

CASE REPORT

Correspondence:

Dr Pramisha Baral

Department of Obstetrics and Gynecology, Nepal IVF and Fertility Center, Basundhara, Kathmandu, Nepal

Email: baralpramisha123@gmail.com

Phone: +977-9846901165.

We report a case of a 36-year-old female who was married for 8 years. She presented with a history of difficulty in conception for the last 4 years. She had a history of one spontaneous abortion at early pregnancy seven years ago and also one history of IVF pregnancy four years ago followed by spontaneous abortion for which she underwent suction and evacuation which was done in India.

She was not under any prior medications. During the time of evaluation, all infertility panels were sent and her thyroid stimulating hormone (TSH) level was 9.56 mIU/L for which she was kept under Thyronorm 50 mcg PO once a day (OD). Before planning pregnancy, optimization of TSH is necessary and TSH should be below 2.5 prior to planning because of the risk of recurrent abortion. There is no significant surgical history. Her menstrual cycle was regular, and she did not report any history of abnormal uterine bleeding and dysmenorrhea.

All baseline investigation was sent which reported an anti-müllerian hormone (AMH) value of 4.18 ng/mL and TSH of 9.56 mIU/L. Husband semen analysis was performed with a volume of 2 mL, count 22 mil/mL, total motility of 65% with active motility of 20% and 2% morphology. Other investigations were within normal limits. A transvaginal ultrasound was performed with the finding of an anteverted uterus, endometrial thickness of 5.8 mm and antral follicle count >6 in each ovary. Endocrinology consultation was done, and treatment was started with thyronorm 50 mcg and patient was advised to do IVF-ICSI with an indication of secondary infertility with a previous

history of recurrent abortion and male factor (with abnormal sperm morphology i.e 2%) and was advised follow-up on day 2 of the cycle.

From day 2 controlled hyperstimulation was started in our center. We use antagonist protocol using recombinant human follicle-stimulating hormone (rFSH) and human menopausal gonadotropin hormone. Follow up was done for follicle monitoring after triggering was done with an injection of Decapeptyl 0.2 mg which was given on 13th day of stimulation. The ovum pickup was done 35 hours after the trigger injection. During the time of pickup, there was difficulty in aspiration from the left ovary since it was highly placed up. Manipulation was done per abdominally and a total of 10 eggs were retrieved. ICSI was performed. On day 5 culture, five blastocysts (5AA, 5AA, 5AA, 2AA, 2AA) were formed and freezing was done. Grading of blastocyst was done by our embryologist using the Gardner grading system. The patient was then planned for Frozen Embryo Transfer (FET) and advised to follow up on day 2.

On second, her endometrial lining was 3 mm. Endometrial preparation started with tablet Estradiol 2 mg thrice a day (6mg/day). Before five days of a transfer, daily Inj Progesterone 50 mg intramuscular (IM) was started and frozen embryo transfer was done on 20th day of the cycle. At the time of transfer, the endometrium was tripled, line with a thickness of 8.33 mm. At the time of transfer, the cervix was towards the right, slight resistance was felt, and the transfer was possible with slight manipulation. The patient was advised to do serum beta-human chorionic gonadotropin (beta-hCG) after 13 days which was positive with a value of 1007.2.

The first scan was performed at 5 weeks 6 days of gestation. Two gestational sacs with fetal pole and cardiac activity were noted. Medicine continued and a follow-up scan was suggested at 8 weeks of gestation with the finding of missed abortion of one twin. At a 10-week scan, two gestational sacs were noted with regular cardiac activity in one twin and decreased size of the gestational sac of the second missed aborted twin. Follow-up continued at 12 weeks with nuchal translucency (NT) nasal bone (NB) scan which showed only one fetus with regular cardiac activity and the vanishing of the second missed aborted twin.

Regular ANC along with blood investigation and scan was done which showed normal findings. The pregnancy continued and the patient was planned for elective cesarean section (CS) at 37 weeks 4 days of gestation with an indication for preeclampsia with unfavourable cervix with the outcome of a single live female baby of 2.6 kg with an Apgar score of 8/10 and 9/10 at 1 min and 5 min respectively. Intraoperative findings, there was a unicornuate uterus with a swollen right tube with a normal

ovary and there was the presence of a rudimentary horn on the left side with a normal tube and ovary which was diagnosed only at the time of cesarean section. She had an uneventful postoperative period.

DISCUSSION

Congenital uterine anomalies result from an abnormal fusion, formation, or reabsorption of Mullerian ducts during fetal life. A unicornuate uterus with presence of rudimentary horn, presents intricate challenges that demand thorough understanding and careful management. This amplifies the risk of diverse obstetric complications including preterm birth, preterm premature rupture of membranes, malpresentations, cesarean section, placenta previa, placental abruption, and intrauterine growth retardation (IUGR).⁴ However, in our case the baby was born at 37 weeks of gestation with an indication for preeclampsia with unfavorable cervix with an outcome of a single live female baby with a birth weight of 2.6 kg. The postoperative period was also uneventful.

In our case, during the time of evaluation, all infertility panels were sent and her TSH level was 9.56 mIU/L for which she was kept under Thyronorm 50 mcg PO OD. Before planning pregnancy, optimization of TSH is necessary and TSH should be below 2.5 prior to planning because of the risk of recurrent abortion and miscarriages.⁵ However, the pregnancy resulted in the delivery of a normal healthy baby. Patients with unicornuate uterus have increased gynaecological and obstetrics complications. Infertility or recurrent pregnancy loss can be the presenting feature of such disorders. In our case, which brought the patient to hospital for analysis is secondary subfertility with recurrent abortion. Other factors of the couple i.e. male factors might have also contributed to the subfertility in this couple.

Combined hysteroscopy and laparoscopy are proposed as a valuable investigation for the diagnosis of uterine anomalies and treating infertility.⁶ Elective single embryo transfer to reduce the incidence of recurrent abortion, malpresentation, premature rupture of membranes (PROM), IUGR.

As compared with normal uterine morphology women, women with unicornuate uterus have also chance of having pregnancy and hopeful live birth rate.

DECLARATION

The patient has given written consent for the publication in a scientific journal and is informed that the identity will be kept anonymous throughout the article. However, complete anonymity cannot be guaranteed.

Conflict of Interest: None.

REFERENCES

1. Esanakula J, Kumar MM, Vijay AS, Rajasekaran RT. Case report of unicornuate uterus with sub-fertility. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2021 May 1;10(5):2072-5. [[Full Text](#)]
2. Wang L, Yu Y, Zhang YQ, Xu J, Han XJ. Impact of unicornuate uterus on third-trimester obstetric outcomes in nulliparous women. *Clinical and Experimental Obstetrics & Gynecology*. 2024 Nov 19;51(11):251. [[Full Text](#) | [DOI](#)]
3. Chen Y, Nisenblat V, Yang P, Zhang X, Ma C. Reproductive outcomes in women with unicornuate uterus undergoing in vitro fertilization: a nested case-control retrospective study. *Reprod Biol Endocrinol*. 2018 Jul 6;16(1):64. [[PubMed](#) | [Full Text](#) | [DOI](#)]
4. Muneeba S Jr, Acharya N, Mohammad S, Reddy LS, Gupta A. Unicornuate Uterus and Rudimentary Horn: An Unusual Cause of Recurrent Fetal Malpresentation Identified During a Scheduled Cesarean Delivery. *Cureus*. 2023 Sep 30;15(9):e46277. [[PubMed](#) | [Full Text](#) | [DOI](#)]
5. Lazarus J. Thyroid regulation and dysfunction in the pregnant patient. South Dartmouth (MA): MDText.com, Inc. 2016 Jul 21;2000. [[PubMed](#) | [Full Text](#)]
6. Varlas V, Rhazi Y, Clotea E, Bors RG, Mirica RM, Balcabasa N. Hysterolaparoscopy: a gold standard for diagnosing and treating infertility and benign uterine pathology. *J Clin Med*. 2021 Aug 23;10(16):3749. [[PubMed](#) | [Full Text](#) | [DOI](#)]

© The Author(s) 2025.

This is an open access article published in the *Postgraduate Medical Journal of Nepal (PMJN)* under the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) license, which permits non-commercial use, distribution, and reproduction (remix, transform, and build upon the material) in any medium or format, provided the original work is properly cited, a link to the license is provided, and any changes are indicated. Commercial use of the content is not permitted. This license ensures that the content remains freely accessible for educational and research purposes. For details, visit: <https://creativecommons.org/licenses/by-nc/4.0/>.