DOI: https://doi.org/10.53350/pjmhs02024181239

ORIGINAL ARTICLE

Outcome of Pregnancy in Patients after Laparoscopic Assisted Metroplasty for Uterus Diadalphus

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ABSTRACT

One of the mullerian duct disorder is didelphic uterus in which the uterine horns and cervix are completely duplicated, with no connection between them. . Patients with a didelphic uterus have high rates of abortion, preterm delivery, and term delivery. The aim of the study was to determine the Outcome of pregnancy in patients after Laparoscopic assisted metroplasty for uterus diadalphus.

Methodology: The current study was conducted at the department of Gyne & Obs in Abbottabad Medical complex and Gulnawaz Teaching Hospital Bannu from May 2023 to Oct 2023 after taking permission from the ethical board of the institute .A total of 30 women who had a history of two preterm deliveries or abortions (not related to immunologic, genetic, or hormonal factors) and a sonohysterographically diagnosed with didelphic uteri were included .. Before the procedure, all of the participants had diagnostic hysteroscopy and had laparoscopic metroplasty from the same surgeon. Every patient had a second-look hysteroscopy and laparoscopy. Three months later to assess the uterine cavity's compliance and potential for adhesion development. One month following the second-look laparoscopy, or four months following the first procedure, patients were instructed to try to conceive. In order to detect pregnancy, all patients were expected to be monitored for a minimum of 12 months. We documented the rate of pregnancy, live births, adhesion development, problems, and compliance of the uterine cavity. Data was entered to Microsoft excel and presented in table and graphs.

Results: 26(86.66%) of the women treated were successful in becoming pregnant, while 4(13.33%) postponed conception. Nineteen individuals (63.33) experienced a term pregnancy with typical pregnancy and delivery results. Two premature deliveries occurred in the Delphic group, both of which had incompetent cervixes and occurred at 22 weeks of gestation, despite vaginal corsage having been performed at 14 weeks. Four (13.33%) of the women being treated decided to postpone conception for their own privacy.

Conclusion: From this study we concluded that laparoscopic metroplasty is safe, feasible, and efficient therapy for women with didelphic uteri who have successive or preterm deliveries. Of course, to validate the satisfactory pregnancy outcomes, further long-term research with larger sample sizes is needed

Keywords: Didelphic uterus, Metroplasty, Pregnancy outcome, Preterm delivery, Laparoscopy, Hysteroscopy, Uterine anomaly

INTRODUCTION

Mullerian duct disorders are frequently the cause of repeated abortions and unfavorable pregnancy outcomes. Infertility, recurrent spontaneous abortions in the first trimester, prenatal development of the baby retardation, fetal malposition, premature labor, and retained placenta are all known to be more common among individuals with Mullerian duct abnormalities.[1-2] The average frequency of these abnormalities is 3.5% in infertile women and 13% in women who have had repeated abortions.[3] One of the mullerian duct disorder is didelphic uterus in which the uterine horns and cervix are completely duplicated, with no connection between them. Its incidence is about 11%.Women with didelpic and uterus appear to have poor pregnancy outcomes. Patients with a didelphic uterus have rates of abortion, preterm delivery, and term delivery of 37%, 16.4%, and 43.3%, respectively.[3] consequently, surgery can be the sole choice for a woman who experiences recurring abortions. Although it is unclear if the Strassman technique may prolong consecutive gestations in these situations, it has been demonstrated to be successful in a small subset of women who have suffered repeated abortions.[4-5] Laparoscopic metroplasty may be a good substitute for abdominal metroplasty because the latter has a genuine risk of causing adhesion development. In January 2006, the first successful report of laparoscopic metroplasty for the didelpic uterus was made in one patient.[6] It has been shown that women having didelphic uteruses who frequently have spontaneous abortions or early births before their surgery had far better reproductive outcomes after abdominal metroplasty.[7] Major laparoscopic surgeries are now carried out by qualified surgeons, but initially laparoscopy was used for diagnostic purposes.[8] Laparoscopic surgery may be a good substitute for abdominal Strassman's metroplasty.[6] Following operational laparoscopy, there has been a documented decrease in the occurrence of adhesion development.[9] Following laparoscopic surgery, less adhesion may occur due to the intrinsic laparoscopic handling of tissue and drying risk.[10] For uterus diadalphus, the laparoscopic assisted metroplasty approach offers improved magnification, decreased tissue drying, fewer infections, fewer adhesions, a shorter hospital stay, and a faster recovery. Therefore the current study was carried out to determine the Outcome of pregnancy in patients after Laparoscopic assisted metroplasty for uterus diadalphus.

Received on 02-11-2023
Accepted on 25-12-2023

METHODOLOGY

The current study was conducted at the department of Gyne & Obs in Abbottabad Medical complex and Gulnawaz Teaching Hospital Bannu from May 2023 to Oct 2023, after taking permission from the ethical board of the institute .A total of 30 women who had a history of two preterm deliveries or abortions (not related to immunologic, genetic, or hormonal factors) and a sonohysterographically diagnosed with didelphic uteri were included . Participants who failed to follow-up and those whose follow-up period was shorter than 12 months following the second-look laparoscopy were not excluded. Before their inclusion in the study, each participant and their husbands gave their written, informed consent. Before the procedure, all of the participants had diagnostic hysteroscopy and had laparoscopic metroplasty from the same surgeon. A prophylactic antibiotic was administered before surgery. After inserting a 10-mm trocar below the umbilicus, CO2 was infused into the abdominal cavity at a pressure of 15 mmHg. A 5-mm trocar was positioned medial to the epigastric arteries and in the RLQ for direct visualization. Lateral to the epigastric arteries, additional 10-mm trocar was placed in LLQ under direct view. In addition, a 5-mm trocar was positioned in

between the two trocars. Didelphic uterus that was removed typically had an adhesion band across the rectum & the bladder. Vasopressin 20 mL was infused along the medial side of both uterine horns at a dosage of 5 mIU/100 mL saline solution. Next, a hook monopolar (50 watts cutting current) was used to make an incision from a single centimeter beyond the right cornuato to 1 cm to the opposite cornuato. Hook scissors were used to access the uterine cavity. Several interrupted 0 polyglactin910 (Vicryl; Ethicon, Somerville, NJ) procedures were used to reconstruct the uterine wall from anterior to the front and back to posterior, excluding the endometrium. Following that, 4-0polyglactin 910 (Vicryl; Ethicon, Somerville, NJ) continuous baseball sutures were used to repair the serosa and superficial myometrium. Interceed (ETHICON SARL, Neuchatel, Switzerland) was administered to the incision site following saline solution irrigation of the abdominal cavity and bleeding assessment. A monofilament suture was used to seal the cannula sites following the removal of CO2 from the peritoneal cavity. All patients received intravenous antibiotics until the second postoperative day. In order to promote endometrial growth and prevent intrauterine synechia, patients were released and administered 2.5 mg of conjugated estrogen daily about 21 days and 10 mg of medroxy progesterone acetate daily for the tenth day of menstrual cycles for two months. Every patient had a second-look hysteroscopy and laparoscopy. Three months later to assess the uterine cavity's compliance and potential for adhesion development. One month following the second-look laparoscopy, or four months following the first procedure, patients were instructed to try to conceive. In order to detect pregnancy, all patients were expected to be monitored for a minimum of 12 months.

• We documented the rate of pregnancy, live births, adhesion development, problems, and compliance of the uterine cavity. Data was entered to Microsoft excel and presented in table and graphs.

RESULTS

A total of 30 participants with didelphic uteri were included. Laparoscopic assisted metroplasty were carried for each individual. The mean age of the study population was 31.6 ± 6.3(22 to 39 years) as presented in table 1. These thirty women had a history of 29 conceptions, 25 abortions, and 4 preterm births. Two days following the procedure, all patients were discharged from the hospital. Five participants with low-grade fever were identified; they had been successfully treated using antibiotics and discharged on their third postoperative day. Eight patients had minor adhesion to the uterus, which was easily released, according to the second look laparoscopy. Higher intrauterine pressure up to 150 millimeters via a persistent positive pressure infusion of a concentration of 5% dextrose in water was used to assess each patient's uniform and appropriate uterine cavity and satisfactory compliance during the second look hysteroscopy. However, seven points had subseptums that were less than 1 cm tall, which were excised using a resectoscope. There were no serious complications during or following procedure. After the surgical procedure.

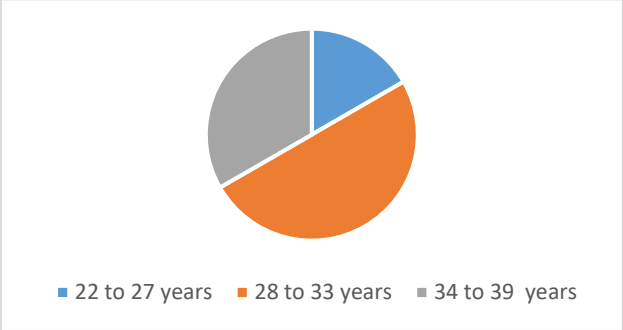

Figure 1: Age wise distribution of the study population

Table 1: Pregnancy outcome of participants with didelphic uteri underwent laparoscopic metroplasty

Outcomes	Frequency	Percentage
Pregnancy	26	86.66
Term pregnancy	19	63.33
Preterm delivery	3	10
Abortion	0	0
Postponed conception	4	13.33

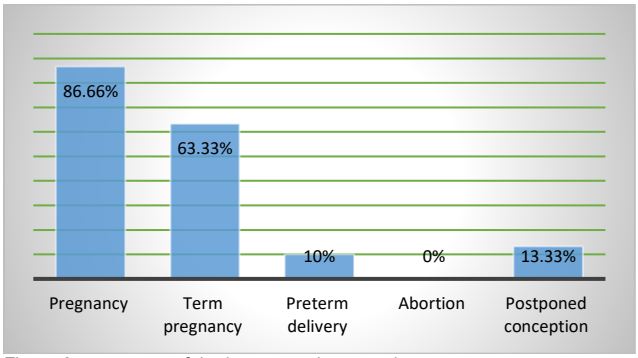

Figure 2: out comes of the laparoscopic metroplasty

Outcomes of the Procedure: Within the first year, 26(86.66%) of the women treated were successful in becoming pregnant, while 4(13.33%) postponed conception. Nineteen individuals (63.33) experienced a term pregnancy with typical pregnancy and delivery results. Two premature deliveries occurred in the Delphic group, both of which had incompetent cervixes and occurred at 22 weeks of gestation, despite vaginal corsage having been performed at 14 weeks. Four (13.33%) of the women being treated decided to postpone conception for their own privacy. Placenta previa and placental site hemorrhage were treated conservatively. In every case, a cesarean section was used as the delivery procedure, and 18 live newborns were delivered. Pregnancy outcome of participants with didelphic uteri underwent laparoscopic metroplasty is presented in table 1 and figure 2.

DISCUSSION

Congenital uterine anomalies are a broad category of uterine anatomical abnormalities caused by elongation, fusion, and absorption problems of any two Müllerian ducts during development between 6 and 20 gestational weeks.[11] According to research, the general population has a 5.5% prevalence of uterine abnormalities, whereas infertile women have an 8.0% prevalence.[12] It is commonly known that uterine anomalies are linked to higher chances of several adverse outcomes, including low birth weight (LBW), miscarriage, preterm birth, malpresentation at delivery, and premature rupture of the membranes.[13] Uterus didelphys, which accounts for 3.8% to 24.2% of all uterine anomalies, is a very rare condition caused by the total failure of fusion of the bilateral Müllerian ducts [14]. Clinically, most women with uterine didelphys are asymptomatic; nevertheless, when a longitudinal vaginal septum is present, they may exhibit blockage, dysmenorrhea, dyspareunia, or infertility.[15] There is little information available on the pregnancy outcomes of individuals who have had laparoscopic supported metroplasty for uterus diadalphus. A total of 30 participants with didelphic uteri were included. Laparoscopic assisted metroplasty were carried for each individual. In this study 26(86.66%) of the women treated were successful in becoming pregnant, while 4(13.33%) postponed conception. Nineteen individuals (63.33%) experienced a term pregnancy with typical pregnancy and delivery results. Two premature deliveries occurred in the Delphic group, both of which had incompetent cervixes and occurred at 22 weeks of gestation, despite vaginal corsage having been performed at 14 weeks. (13.33%) of the women being treated decided to postpone conception for their own privacy. the findings of our research are

similar with the study conducted by Alborzi, Saeed, et al[16]. they stated that over eighty percent of cases (12/14) were successful in becoming pregnant, whereas 14.2% (2/14) delayed conception. Two didelphic uteri and seven bicornuate individuals had term pregnancies with typical pregnancy and delivery results. Two abortions occurred in the bicornuate group, and one premature birth occurred in the diedelphic group due to an incompetent cervix; however, vaginal cerclage had been performed at 14 weeks of gestation. For personal reasons, two patients—one bicornuate and one didelphicuteri—decided to delay pregnancy. All deliveries were made via cesarean section, and nine live neonates were delivered.

CONCLUSION

From this study we concluded that laparoscopic metroplasty is safe, feasible, and efficient therapy for women with didelphic uteri who have successive or preterm deliveries. Of course, to validate the satisfactory pregnancy outcomes, further long-term research with larger sample sizes is needed.

REFERENCES

1 Braun P, Grau FV, Pons RM, Enguix DP. Is hysterosalpingography able to diagnose all uterine malformations correctly? A retrospective study. Eur J Radiol 2005; 53:274–9.

2 Saygili-Yilmaz E, Yildiz S, Erman-Akar M, Akyuz G, Yilmaz Z. Reproductive outcome of septate uterus after hysteroscopic metroplasty. Arch Gynecol Obstet 2003; 268:289–92.

3 Grimbizis GF, Camus M, Tarlatzis BC, Bontis JN, Devroey P. Clinical implications of uterine malformations and hysteroscopic treatment results. Hum Reprod Update 2001; 7:161–74.

4 Lin PC, Bhatnagar KP, Nettleton GS, Nakajima ST. Female genital anomalies affecting reproduction. Fertil Steril 2002; 78:899–915.

5 Rackow BW, Arici A. Reproductive performance of women with m€ullerian anomalies. Curr Opin Obstet Gynecol 2007;19:229–37

6 Sinha R, Mahajan C, Hegde A, Shukla A. Laparoscopic metroplasty for bicornuate uterus. J Minim Invasive Gynecol 2006; 13:70–3

7 Lois DE, Paschopoulos M, Makrydimas G, Zikopoulos K, Sotiriadis A, Paraskevaidis E. Reproductive outcome after Strassman metroplasty in women with a bicornute uterus. J Reprod Med 1993;38:393–6

8 Sinha R, Hegde A, Warty N, Patil N. Laparoscopic excision of very large myomas. J Am Assoc Gynecol Laparoscop 2003;10:461–8.

9 Sinha R, Hegde A, Warty N, Bhat P, Singhal T. Laparoscopic removal of large multiple myomas with cumulative weight of 2.3 kg. J Am Assoc Gynecol Laparoscop 2003;10:403–6

10 Stringer NH, Walker JC, Meyr PM. Comparison of 49 laparoscopic myomectomies with 49 open myomectomies. J Am Assoc Gynecol Laparoscop 1997; 4:457–64

11 Engmann L, Schmidt D, Nulsen J, Maier D, Benadiva C. An unusual anatomic variation of a unicornuate uterus with normal external uterine morphology. Fertil Steril 2004; 82: 950–953

12 Chan YY, Jayaprakasan K, Zamora J, Thornton JG, Raine-Fenning N, Coomarasamy A. The prevalence of congenital uterine anomalies in unselected and high-risk populations: a systematic review. Hum Reprod Update 2011; 17: 761–771

13 Venetis CA, Papadopoulo SP, Campo R, Gordts S, Tarlatzis BC, Grimbizis GF. Clinical implications of congenital uterine anomalies: a meta-analysis of comparative studies. Reprod Biomed Online 2014; 29: 665–683.

14 Taylor E, Gomel V. The uterus and fertility. Fertil Steril 2008; 89: 1–16.

15 Heinonen PK. Uterus didelphys: a report of 26 cases. Eur J Obstet Gynecol Reprod Biol 1984; 17: 345–350

16 Alborzi, Saeed, et al. "Laparoscopic metroplasty in bicornuate and didelphic uteri: feasibility and outcome." Archives of gynecology and obstetrics 291 (2015): 1167-1171

This article may be cited as: Israr A, Wazir ZK, Tahir N, Kousar S: Outcome of Pregnancy in Patients after Laparoscopic Assisted Metroplasty for Uterus Diadalphus. Pak J Med Health Sci, 2023; 18(1): 239-241.