

## Original Research Article

# Uterine Didelphys pregnancy management

### ABSTRACT

**Introduction:** Didelphys uterus is a rare Mullerian duct abnormality affects 1-3 in 3000 women worldwide. It is usually asymptomatic justify why such study is needed

**Aims:** to study the best management of pregnant didelphys uterus women.

**Study design:** This is a multicenter prospective cohort.

**Place and Duration of study:** This study was conducted in Saudi Arabia in 4 cities, 8 hospitals over a period of five years.

**Methodology:** 286 patients joined this study, all diagnosed previously to have didelphys uterus, pregnant and willing to join, follow up and deliver in one of the research hospitals. Patients consented to join the search and every 2 weeks follow up and management done.

**Results:** 15 (5.2%) patients aborted during the first half of the pregnancy. 139 (48.6%) patients had cervical cerclage done. 79 (27.6) patients had preterm labor pains which was managed. 231 (80.8%) patients delivered by cesarean section and 17 (5.9%) delivered spontaneous vaginal delivery. Added to that, 38 (13.3%) had operative vaginal delivery. 271 neonates delivered. Unfortunately, three (1.1%) had intrauterine fetal death (IUFD) at 30-32 weeks gestational age due to multiple congenital anomalies. All remaining neonates were normal and healthy except 25 (9.2%) admitted to NICU for various causes, but discharged eventually in good condition.

**Conclusion:** Although, women with didelphys uterus are rare patients, they needs especial attention in antenatal care, but, have a good chance to compete pregnancy to the end and can deliver like any other normal patient with little higher cesarean section rate.

Keywords: *Didelphys, Mullerian, Vaginal Septum, Cesarean, Cervical Cerclage, Preterm Labor.*

## 1. INTRODUCTION

Didelphys uterus or double uterus is a rare condition of failure of fusion of Mullerian ducts. It affects one to three in 3000 women worldwide [1, 2]. This condition is a congenital anomaly, which can be isolated but more frequently associated with vaginal anomalies including double vagina, septated vagina and semi-septated vagina. Moreover, this condition may be conjoined with renal or skeletal anomalies. Usually, each uterus is attached to ipsilateral tube and these patients have healthy ovaries [1-4].

At age of 6 weeks of fetal life Mullerian ducts develop and by the end of 9th week, they start process of fusion in the middle part of the tube in caudal cephalic fashion leading to the formation of the uterus. If for any reason, this fusion disturbed, it leads to the formation of didelphys uterus [1, 4-6]. Usually, patients of didelphys uterus have no symptoms, and it is discovered during investigation for recurrent abortion, or preterm labor [7-9]. Nevertheless, some patient may complaint of dysmenorrhoea or dyspareunia. This condition may be discovered during transvaginal ultrasound, hysteroscopy, hysterosalpingogram, abdominal laparoscopy and laparotomy [1, 10, 11].

This condition is associated with recurrent abortion, preterm labor and abnormal lie of the fetus [4, 6, 7]. Most of the pregnancies of women with didelphys uterus ends by cesarean section [4, 8, 9, 11].

**This research aims to study the best method to manage pregnant women diagnosed with uterus didelphys.** justification of study needs to be written in better way

## 2. METHODS this part of manuscript needs to be rewritten completely

This is a multicenter prospective observational cohort conducted in four cities in Saudi Arabia and included eight major hospitals. In Holy city of Makkah, Maternity and children Hospital (MCH) and Hera'a Hospital. In Holy city of Madinah, Maternity and children Hospital (MCH) and Uhod Hospital. In

54 Jeddah city, Mesadiah Maternity and children Hospital and North Jeddah Hospital. In Al-Baha area,  
 55 King Fahad Hospital and Prince Meshari Hospital in Baljurashi.  
 56 This research conducted over five years, started on first of February 2013 and ended in 31st of  
 57 January 2018. This research was approved by Saudi Ministry of Health governing all these  
 58 government hospitals. All above-mentioned hospitals are government hospitals servicing patients free  
 59 and are the main administrator for Obstetrical and Gynecological services in above mentioned areas  
 60 and cities. The average number of deliveries in all above-mentioned hospitals is 50,000 thousand  
 61 deliveries per annum and the average rate of cesarean sections is 24%.  
 62 ~~To join the~~ research, patient should be diagnosed previously to have didelphys uterus, pregnant and  
 63 willing to join, follow up and deliver in one of the research hospitals. If any of the above-mentioned  
 64 conditions not met patient will be opt out of the research.  
 65 In first antenatal visit, patients comes to perform first ultrasound and start the follow up in the clinic. If  
 66 she is known or diagnosed to have didelphys uterus then she is offered to join the research. If all the  
 67 conditions are applicable then patient consented to join the search. Every 2 weeks follow up and  
 68 management is granted.  
 69 Outcomes included, incidence of didelphys uterus among the population **Saudis and non-Saudis**,  
 70 incidence of cervical cerclage, incidence of abortion among those patients, rate of preterm labor. Also,  
 71 rate of cesarean section among them and rate of vaginal and operative vaginal delivery among them,  
 72 rate of admission to Neonatal Intensive Care Unit (NICU) for their neonates. Added to that, types of  
 73 neonatal problems among infants of those mothers. Data presented as frequencies and percentages.

74 **include ethical clearance details in this section**

### 75 3. RESULTS

76  
 77 During the five years period of this study 371345 patients were seen in the antenatal clinics and  
 78 243746 patients completed their follow up and delivered in participating hospitals. There were 286  
 79 patients diagnosed to have didelphys uterus, representing 0.12% of patients completed follow up and  
 80 delivered (Table 1).

81  
 82 **Table 1: Patient distribution during the study**

	<b>Saudis N (%)</b>	<b>Non-Saudis N (%)</b>	<b>Total N (%)</b>
Patients seen in antenatal clinic	295622 (79.6%)	75723 (20.4%)	371345 (100%)
Patients completed follow up and delivery	215729 (88.5%)	28017 (11.5%)	243746 (100%)
Didelphys patients pregnancies	275 (96.2%)	11 (3.8%)	286 (100%)

84  
 85 There were 211 (73.8%) patients with didelphys uterus and single vagina, 72 (25.2%) patients with  
 86 didelphys and double vagina and 3 (1%) patients with didelphys and incomplete vaginal septum  
 87 (Table 2).

88  
 89  
 90 **Table 2: distribution of patients according to type of anomaly**

	<b>Saudis N (%)</b>	<b>Non-Saudis N (%)</b>	<b>Total 286 N</b>
Didelphys uterus and single vagina	205 (97.2%)	6 (2.8%)	211
Didelphys uterus and double vagina	67 (93.1%)	5 (6.9%)	72
Didelphys uterus and vaginal septum	3 (100%)	0	3

93 15 (5.2%) patients aborted during the first half of the pregnancy. 139 (48.6%) patients had cervical  
 94 cerclage done. 79 (27.6) patients had preterm labor pains, which was managed according to  
 95 guidelines. All delivered at term. While, 231 (80.8%) patients delivered by cesarean section and 17  
 96 (5.9%) delivered spontaneous vaginal delivery. Added to that, 38 (13.3%) had operative vaginal  
 97 delivery (Table 3).

98  
 99 **Table 3: management during antenatal care and method of delivery**

	Saudis N (%)	Non-Saudis N (%)	Total 286 N
Abortion	12 (80%)	3 (20%)	15
Cervical cerclage	131 (94.2%)	8 (5.8%)	139
Preterm labor	76 (96.2%)	3 (3.8%)	79
Cesarean deliveries	223 (96.5%)	8 (3.5%)	231
Spontaneous vaginal delivery	17 (100%)	0	17
Forceps delivery	20 (100%)	0	20
Vacuum extraction delivery	18 (100%)	0	18

101  
 102  
 103 Regarding neonates, 271 neonates delivered. Unfortunately, 3 (1.1%) had intrauterine fetal death  
 104 (IUID) at 30-32 weeks gestational age with no obvious cause, but, when examined post-delivery,  
 105 multiple congenital anomalies discovered in them. All remaining neonates were normal and healthy  
 106 except 25 (9.2%) admitted to NICU for various causes, but discharged eventually in good condition  
 107 (Table 4).

108  
 109 **Table 4: neonatal outcomes**

	Saudis N (%)	Non-Saudis N (%)	Total 286 N
Lost as abortion	12 (80%)	3 (20%)	15
IUID	2 (66.7%)	1 (33.3%)	3
Asphyxia at delivery	1 (100%)	0	1
Respiratory distress	3 (75%)	1 (25%)	4
Meconium aspiration	7 (53.8%)	6 (46.2%)	13
Sever prematurity	3 (42.9%)	4 (57.1%)	7

#### 111 112 **4. DISCUSSION**

113  
 114 Didelphys uterus is a rare Mullerian duct anomaly affects 0.03-0.1% of women in the fertile age group  
 115 [1, 2, 4]. Usually, fertility of these patients preserved and it is considered better than patients of other  
 116 Mullerian duct anomalies [2, 4, 9]. These patients suffer from multiple fetal loss due to abortion or  
 117 preterm labor [2, 4, 5]. They usually needs especial attention during antenatal care and delivery [2].  
 118 This is a multicenter multiracial prospective observational cohort, conduct over 5 years to study the  
 119 best management method for pregnant women diagnosed with uterus didelphys. 286 women  
 120 diagnosed to have didelphys uterus and pregnant joined the study, with a result of 268 babies born  
 121 alive and discharged in good condition.

122 On literature review, this condition is associated with excellent results of the pregnancy, and this is  
 123 can be seen in this study. Paying special care for these patients with close follow up paid off in this  
 124 group of patients. This results agreeing with most of the studies in these women [3-11]. Only one  
 125 large study was against all other studies including this study, and concluded that women with  
 126 didelphys uterus has the highest rate of preterm delivery, spontaneous abortion, and the lowest rate  
 127 of having a term delivery [2].

128 In this study, we found women with didelphys uterus have higher chance of preterm delivery and may  
129 need cervical cerclage more than women with normal anatomical uterus, but they have a good  
130 chance of completing the pregnancy to term.

131

## 132 5. CONCLUSION

133 Women with didelphys uterus are rare patients who needs especial attention in antenatal care, but,  
134 have a good chance to compete pregnancy to the end and can deliver like any other normal patient  
135 with little higher cesarean section rate.

136 More studies are needed for this group of women, but should be larger studies and focusing on follow  
137 up, cost effectiveness and outcomes of their pregnancy.

138

## 139 ETHICAL APPROVAL

140

141 Author hereby declare that this study have been approved by the appropriate ethics committee and have  
142 therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of  
143 Helsinki.

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