بسم الله الرحمن الرحيم

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Conservative Versus Radical Management of Morbidly Adherent Placenta

(Cohort study)

Thesis

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By

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List of Abbreviations

Abb.	Full term
ABL	Actual blood loss
APGAR	A-apperance P- pulse G- grimace A- activity R- Respiration
ART	Assisted reproductive technology
B	Bladder
CD	Cesarean delivery
CDI	Color Doppler imaging
c-erbB-2 oncogene	Erythroblastic leukemia viral oncogene.
CRL	Crown rump length
Cryo	Cryopercepitate
CS	Cesarean sections
DIC	Disseminated intravascular coagulopathy,
dNK	Decidual natural killer cells
ECM	Extracellular matrix
EGFR	Epidermal growth factor receptor
EMT	Epithelial-to-mesenchymal transition
ESCs	Endometrial stromal cells
EVT	Extravillous trophoblasts
FFP	Fresh Frozen Plasma
fms	Feline McDonough Sarcoma
HB-EGF	Heparin-binding epidermal growth factor
hCG	Human chorionic gonadotropin
Hct (f)	Hematocrit final
Hct (i)	Hematocrit initial
Hct (m)	Hematocrit mean
ICU	Intensive care unit
IGF	Insulin-like growth factor
IIAL	Internal iliac artery ligation
INSL4	Insulin-like protein 4
JZ	Junctional zone
KG	Kilogram
M	Myometrium
MAP	Morbidly Adherent Placenta

Abb.	Full term
ml	Milliliter
MMP	Matrix metalloproteinase
MNGC	Multinucleated trophoblast giant cells
MRI	Magnetic resonance imaging
NICU	Neonatal intensive care unit
P	Placental
PA	Placenta accreta
PAD	Placental adhesion disorder
PAPP-A	Pregnancy-associated plasma protein A
PAS	Placenta Accreta Spectrum"
PC	Placenta creta
PI	Placenta increta
PP	Placenta previa
PP	Placenta percreta
PPH	Postpartum hemorrhage
PV	Placental villi
RDS	Respiratory distress syndrome
RhD	Rhesus D
SD	Stander Deviation
sFlt-1	Soluble fms-like tyrosine kinase 1
TGF-alpha	Transforming growth factor-BETA
Tie-2	Endothelial cell tyrosine kinase receptor
U	Unit
UAL	Uterine artery ligation
UAL	Low Uterine artery ligation
VEGF	Vascular endothelial growth factor

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ABSTRACT

Background: Placenta accreta is considered a life-threatening condition and the main cause of maternal mortality, postpartum hysterectomy, admission to ICU, and an inadvertent laceration to intestine or bladder during cesarean section.

Aim: To compare between outcome of conservative management of morbidly adherent placenta and caesarean hysterectomy.

Methods: This study included 90 pregnant females diagnosed by ultrasound to have morbidly adherent placenta (MAP). Maternal history, intraoperative data about placental location, estimated blood loss, units of blood transfusion required and surgical procedure carried out to control bleeding was retrieved. Post-operative need for intensive care unit (ICU) admission and other maternal complications were recorded. Perinatal mortality and neonatal outcomes for birth weights, neonatal ICU admission, and neonatal ICU stay in both groups was also noted.

Results: There was no significant difference between the two groups as regards Blood Volume, and although actual blood loss was higher in group 2 than group 1 but the difference wasn't significant. ICU admission and duration mean were significant higher in group 2 where 21(42.9%) females were admitted to ICU for duration mean ±SD equals 2.29±1.189 days versus 5(16.1%) females and duration mean ±SD equals 1.40±0.548 in group 1. Operation time and post operation stay were significant higher in group 2 than group 1. There was no significant difference between the two groups as regards blood transfusion intra and post-operative time.

Conclusion: Conservative management of morbidly adherent placenta is associated with lower maternal morbidities and mortalities as compared with radical surgical management in patients who fits the inclusion criteria and wants to preserve their fertility.

INTRODUCTION

Placenta accreta was first described nearly 80 years ago as a clinicopathological condition in which the placenta fails to separate partially or totally from the uterine wall. Several concepts have been proposed to explain why and how it occurs. In the past, it was thought that a primary defect of the biological function of the trophoblast would lead to excessive invasion of the myometrium by placental tissue beyond the physiological decidual–myometrial junction zone ***(Jauniaux and Jurkovic, 2012).***

The current prevailing hypothesis is that a defect of the endometrium–myometrial interface, typically at the site of a prior hysterotomy or cesarean section, leads to a failure of normal decidualization in the corresponding uterine area. This allows extravillous trophoblastic infiltration and villous tissue to develop deeply within the myometrium, including its circulation, and to sometimes reach the surrounding pelvic organs ***(Jauniaux et al., 2018).***

Depending on the depth of trophoblast invasion into the myometrium, three subtypes have been differentiated by pathologists: (1) superficial placenta accreta (also called placenta creta, vera, or adherenta), where the villi attach directly to the surface of the myometrium without invading it; (2) placenta increta, where the villi penetrate deeply into the myometrium up to the external layer; and (3) placenta percreta, where the invasive villous tissue reaches and

penetrates through the uterine serosa ***(Jauniaux et al., 2018)***.

Placenta increta and percreta are often referred to as abnormally invasive placenta. More invasive placentation is not due to a further invasion of extravillous trophoblast in the uterine wall, but likely arises from an extended scar defect that allows the development of chorionic villi deep within the uterine wall, including within its peripheral circulation. The striking rise in the incidence of abnormally adherent and invasive placentation in women with a prior cesarean delivery supports the latter concept ***(Parra-Herran and Djordjevic, 2016).***

Owing to the lack of international consensus on nomenclature, Jauniaux et al. (2018) suggested the term "*Placenta Accreta Spectrum*" (PAS) as a general term that includes both abnormal adherence and abnormal invasion.

Placenta accreta is considered a life-threatening condition and the main cause of maternal mortality, postpartum hysterectomy, admission to ICU, and an inadvertent laceration to intestine or bladder during cesarean section ***(Eller et al., 2011)***. Any attempt to manually remove a PAS disorder typically provokes heavy bleeding and is associated with high maternal morbidity and mortality ***(Silver, 2015)***.

The diagnosis of PAS is usually established by ultrasonography and the features suggestive of placenta accreta include vascular spaces within the placenta, thinning of the myometrium overlying the placenta, loss of the retroplacental "clear space", protrusion of the placenta into the bladder, increased vascularity of the uterine serosa and turbulent blood flow through the lacunae on Doppler ultrasonography ***(Murray et al.,2005)..***

AIM OF THE WORK

The aim of the study is to compare between conservative management of morbidly adherent placenta and caesarean hysterectomy as regards postpartum haemorrhage and other complications to the mother and the neonate.

- **Primary outcome:**

Amount of maternal blood loss in both conservative management of morbidly adherent placenta and caesarean hysterectomy.

- **Secondary outcome:**

Neonatal APGAR score and maternal complications in both conservative management of morbidly adherent placenta and caesarean hysterectomy.