Obstetric Hysterectomy versus Conservative Surgery for Management of Patients with Placenta Accreta as Regard Maternal Morbidity and Mortality: A Retrospective Study for the last 5 Years and a Prospective Study for the Next 6 Months

Thesis

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Wessam Sayed Mohamed El-Sayed

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List of Abbreviations

Abbr.	Full-term
2D	: Two-dimensional
3D	: Three-dimensional
ACOG	: American College of Obstetricians and Gynecologists
AFP	: Alpha fetal protein
CI	: Confidence interval
CS	: Cesarean section
D&C	: Dilatation and Curettage
DIC	: Disseminated intra vascular coagulopathy
DNK	: Decidual natural killer
DVT	: Deep venous thrombosis
FFP	: Fresh frozen plasma
FN	: Fibronectin
GA	: Gestational age
Hb	: Hemoglobin
HCG	: Human chorionic gonadotropin
HCT	: Hematocrit
Hr	: Hour
ICU	: Intensive Care Unit
IL	: Interleukin
IUFD	: Intrauterine fetal death
MAP	: Morbidly adherent placenta
MMPs	: Matrix metallo-proteinases
MRI	: Magnetic resonance imaging
NICU	: Neonatal intensive care unit
PA	: Placenta accreta

PAD : Placental attachment disorders
PG : Primigravida
PIGF : Placental growth factor
PL : Placenta
PRBCs : Packed Red blood cells
RCOG : Royal College of Obstetricians and **Gyneco**logists
S **:** Significant
SD **:** Standard deviation
SPSS : Statistical package for social science
TOP : Termination of pregnancy
UB : Urinary bladder
US : Ultrasound
VEGF : Vascular endothelial growth factor
WK : Week

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Introduction

Invasive placentation (placenta accreta, increta, and percreta) is a serious and increasingly frequent complication of pregnancy, characterized by an excessive penetration of the placenta into or through the myometrium. For convenience, these three diagnoses are often described as placenta accreta ***(Khong, 2008).***

The aetiology of placenta accreta has been thought to be due to the absence of the spongiosus layer of the decidua and the histology correspondingly shows the trophoblastic invasion into the myometrium without intervening decidua ***(Oyelese and Smulian, 2006).***

The most common risk factor for invasive placentation is the presence of a uterine scar, usually following previous Caesarean section ***(Clark et al., 1985).*** The incidence of invasive placentation has increased from 1:30 000 50 years ago to 1:2500 to 1:550 in recent series ***(Clark et al., 1985; Canadian Institute for Health Information, 2007)*** This 10-fold to 50-fold increase is most likely due to increases in both the CS rate and number of pregnancies occurring at advanced maternal age ***(Canadian Institute for Health Information, 2007).***

Postpartum hemorrhage, adjacent organ injury, ileus, infection, and thromboembolic complications are all markedly increased in the presence of invasive placentation leading to increased rates of maternal morbidity and mortality ***(Silver et al., 2006).***

In several studies invasive placentation has replaced uterine atony as the leading indication for peripartum hysterectomy ***(Shellhaas et al., 2009).***

Various methods of managing placenta accreta have been described, ranging from conservative methods to extirpative management**.** There has been a paradigm shift in terms of treatment, from the historical caesarean hysterectomy to more conservative methods of management ***(Oyelese and Smulian, 2006).***

It is better to perform the surgery under elective, controlled conditions rather than urgently with inadequate preparation in an emergency. In addition, regardless of the management options taken, the prevention of complications ideally requires a multidisciplinary team approach ***(Warshak et al., 2010).***

Conservative surgical alternative to peripartum hysterectomy for women with morbidly adherent placenta

involves perioperative placental localization and delivery of the fetus via transverse uterine incision above the upper border of the placenta; pelvic devascularization; and placental non-separation with myometrium excision and reconstruction of the uterine wall, other conservative methods may be applied ***(Sentilhes et al., 2010).***

Blood loss from the separated and adherent part of the placenta is controlled by under suturing. In cases of placenta percreta in which prenatal imaging indicates trophoblastic invasion into the posterior wall of the urinary bladder, hemostatic sutures are placed along the line of invasion of the placental tissue into the posterior wall of the bladder to achieve hemostasis. This is followed by closure of the myometrial defect in 2 layers (similar to cesarean delivery). Maternal morbidity is minimized because there is no extensive surgery involving resection of the urinary bladder, and complications associated with peripartum hysterectomy are avoided ***(Palacios-Jaraquemada, 2008).***

The intraoperative complications to be noticed first will be; hemorrhage and injury to adjacent organs. The early post-operative outcome will be a composite score of maternal morbidity that included any of the following: sepsis, septic

shock, peritonitis, deep vein thrombosis, pulmonary embolism, acute pulmonary edema and acute renal failure. The late post-operative complications assessment will include rate of occurrence of: uterine necrosis, fistula, pelvic adhesion. Also, maternal mortality will be recorded. Whether a hysterectomy was performed intraoperative within the first 24 hours (early post-operative) or delayed >24 hours after delivery (late post-operative) in cases with failed conservative trial will be recorded ***(Sentilhes et al., 2010).***