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Chapter 1 : PPT " Placenta previa PowerPoint presentation | free to download - id: dOWY0Y

Practical observations on the uterine hemorrhage; with remarks on the management of the placenta. Author: John Burns ; Stanton A. Friedberg, M.D. Rare Book Collection of Rush University Medical Center at the University of Chicago.

Key Clinical Message Early recognition and active management of the third stage of labor will reduce the risks associated with uterine inversion. Acute uterine inversion is a rare and serious obstetrics emergency, estimated to occur in one in deliveries 2. This tends to happen at least once a year in our unit. In acute uterine inversion, the uterus has turned inside out and may protrude from the vagina. Often, this occurred when fundal massage and umbilical cord traction were performed incorrectly or overenthusiastically. Uterine inversion is usually classified according to the degree of inversion. In incomplete inversion, the uterine fundus is inverted and lies within the endometrial cavity without extending beyond the external os, whereas a prolapsed inversion is one where the fundus protruded through the vaginal introitus. In complete uterine inversion, the uterus as well as the vagina is inverted. We described a case of acute uterine inversion following the delivery of placenta despite controlled cord traction from the perspective of an obstetrician and an anesthetist. She had a past medical history of postpartum hemorrhage PPH following her first pregnancy. Although no record was available on the exact cause and nature of the PPH i. On admission, we aimed for active management of third stage of labor with routine precautions e. The labor was augmented with an artificial rupture of membrane ARM. Active pushing of labor was commenced when the cervix was fully dilated at 10 cm. Owing to deep transverse arrest, we attempted ventouse delivery for the patient. Following this, a male infant with a weight of 4. Immediately after delivery of placenta, the patient experienced major PPH due to complete uterine inversion despite controlled cord traction. The patient was in lower abdominal pain, with signs of hemodynamic shock out of proportion with the blood loss. The consultant obstetrician was referred and manual replacement of uterus was attempted as soon as uterine inversion was recognized. It was decided that the patient would need vigorous fluid resuscitation; hence, she was transferred to the operating theater for interventions under general anesthetics with propofol. General anesthesia was preferred rather than spinal or regional anesthesia due to the hemodynamic instability. In the operating theater, the uterine inversion was corrected manually without difficulty. Additional interventions for the patient included administration of oxytocin bolus and infusion, ergometrine, prostaglandin, and simultaneous bimanual compression. Despite the delivery of pharmacological agents and manual compression, the patient continued to deteriorate. As the urine became bloodstained, concern about disseminated intravascular coagulopathy DIC was raised. Following a discussion with the consultant anesthetist, we decided to switch off propofol, which was thought to be associated with the inhibition of uterine contraction and would lead to further blood loss. The hydrostatic balloon was left in situ for 24 h. Antibiotics prophylaxis was also given as per protocol. On day 2 after the delivery, the uterus was well contracted with minimal lochia. The patient was discharged home on day 3 in a stable condition after a debriefing on the acute event of uterine inversion. She was instructed to schedule an appointment for future deliveries, allowing advance planning to prevent the recurrence of postpartum hemorrhage 1 following recommendation from World Health Organisation WHO and International Federation of Gynaecology and Obstetrics FIGO. Controlled cord traction is the preferred mode of action following signs of placental separation, in line with the recommendation from the Cochrane systematic review database 3. Making a prompt diagnosis of uterine inversion is essential to a good outcome. Our case demonstrated a classic presentation of complete uterine inversion in which the uterus is visibly displaced while delivering the placenta and the patient developed symptoms of lower abdominal pain and signs of hemodynamic shock out of proportion to the apparent blood

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loss. We do, however, recognize that the clinical picture is not always obvious and may initially only be noted by a change in maternal observations and signs of shock; therefore, a high index of suspicion is required. The patient continued to deteriorate despite the aforementioned active management of labor and immediate manual replacement of the uterus. This mandated rapid resuscitation and the need to escalate the treatment accordingly. Communication, Resuscitation, Monitoring and Investigation, and Arresting the bleed. The guidelines suggested that once the uterus was successfully inverted and other causes of PPH were ruled out, pharmacological and mechanical interventions should be initiated. This involved bimanual compression and injection of syntocinon, ergometrine or carboprost 5. Misoprostol can also occasionally be given per rectal 7. If these measures failed to stop the bleeding, surgical hemostasis should not be delayed and often than not, balloon tamponade is an appropriate treatment for most patients where atony is the only cause of hemorrhage. This simple and reproducible approach is often cited in British medical literature and 8 is supported by the United Kingdom Obstetric Surveillance system data, which demonstrated that early tamponade is associated with reduced maternal mortality secondary to postpartum hemorrhage 9. When considering the potential etiologies of uncontrolled hemorrhage, it is important to rule out any coagulation defects and DIC as patients with coagulation disorders are unlikely to respond to the pharmacological measures as described earlier. In the event of DIC, the mainstay of hemodynamic supports may include fresh frozen plasma, cryoprecipitate, recombinant factor VIIa, and platelet products 11 , The patient did not have any past medical history of coagulopathies and we effectively ruled out DIC and avoided the unnecessary administration of hematological products by serially evaluating the coagulation status. When all measures were exhausted, a laparotomy should not be delayed. For this reason, we decided to switch off the propofol agent to prevent further uterine atony. The day course was designed and structured to help develop practical skills and drill training in order to facilitate a safer delivery in a timely manner. Conclusion In summary, this report highlighted a rare case of severe postpartum hemorrhage PPH secondary to acute complete uterine inversion. Active management of third stage of labor is recommended for postpartum hemorrhage. This encompassed the immediate use of uterotonics, the application of controlled cord traction, and fundal massage immediately after placental delivery. In addition, making a prompt diagnosis of uterine inversion and an immediate attempt at manual replacement of the uterus is essential to a good outcome. A high index of suspicion is required in cases where the clinical picture is not obvious. Because of the emergent nature of uterine inversion, it is best practice to make an immediate attempt at manual replacement and bimanual compression of the uterus as a holding measure while transferring the patient to the theater. The use of a hydrostatic balloon should not be delayed if pharmacological and mechanical interventions are not successful, and a laparotomy would be the last resort. Equally important, any coagulopathies or complications such as DIC should be identified and treated promptly. From an anesthetic point of view, general anesthetic agents can potentially exacerbate uterine atony and hence, the decision to switch off the agent should be considered to encourage uterine contraction.

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Chapter 2 : Case Study 7 “ Antepartum Bleeding | Peruzo

Burns's Obstetrical works: the anatomy of the gravid uterus: with practical inferences relative to pregnancy and labour: observations on abortion: containing an account of the manner in which it takes place: the causes which produce it: and the method of preventing or treating it: practical observations on the uterine hemorrhage: with remarks on the management of the placenta.

Hence, in face of relentless bleeding empirical treatment with 1 liter of FFP and 10 units of cryoprecipitate 2 packs can be given, while awaiting coagulation studies. The increasingly important issues in blood transfusion are adverse effects associated with transfusion, including potential infection and transmission of prions, rising costs and the possible future problems of availability. Equal attention should be given to rebound hypercoagulation and thromboembolism that follows blood transfusion especially in pregnancy which is a hypercoagulable state by itself. There is a constant threat to the fetus in obstetric hemorrhage as the uteroplacental circulation is at risk because of the following reasons-7,16 Compensatory selective vasoconstriction: This occurs as a result of diversion of blood from less vital maternal organs skin, gut, muscles, uteroplacental unit to maintain circulation of vital organs. Reduction in maternal blood pressure decreases the uterine blood flow. Fetal resuscitation can be achieved by following- Maintaining uteroplacental circulation will also ensure fetal well being. Hence maternal resuscitation is of paramount importance. Monitoring by Electronic fetal heart rate monitor NICHD guidelines advocate use of fetal scalp pH, fetal scalp lactate and fetal pulse oximetry for adequacy of fetal circulation. In case of fetal distress or hyperstimulation, oxytocin drip has to be discontinued. In pregnancy, concerns have been raised regarding placental insufficiency, whether the woman will make up her hemoglobin before delivery and whether the collected units will be sufficient in the event of major obstetric hemorrhage. Intra operative cell salvage: The potential difficulty in bleeding mothers is the effective removal of amniotic fluid and degree of contamination with fetal red cells. Still, several bodies based on current evidence have endorsed cell salvage in obstetrics. It is hence suggested that rFVIIa may be used as an adjuvant to standard pharmacological and surgical treatment under the guidance of a hematologist. Empirical use of rFVIIa is not advisable as it is not relevant to use this drug in low fibrinogen levels and in thrombocytopenia. Although evidence is conflicting, there is a consensus that antifibrinolytic agents tranexamic acid seldom, if ever, have a place in the management of obstetric hemorrhage. It should be envisaged that the various guidelines available for management should be incorporated into a local protocol for each maternity unit. Above all, a multidisciplinary approach with consensual planning catalyses the management even in crisis situation. Epidemiology of postpartum haemorrhage: Chhabra S, Sirohi R. Trends in maternal mortality due to haemorrhage: Evaluation of the quality of care for severe obstetrical haemorrhage in three French regions. WHO analysis of causes of maternal death: Use of magnetic resonance imaging and ultrasound in the antenatal diagnosis of placenta accreta. J Soc Gynecol Investig ;9: Brouwere V, Lerberghe W. Can skilled attendance at delivery reduce maternal mortality in developing countries? A review of the evidence. Studies in Health Organisational Services and Policy. Antepartum and postpartum hemorrhage. Post partum hemorrhage- Update on problems of definitions and diagnosis. Acta Obstet Gynecol Scand Deaths associated with anaesthesia, in Lewis G ed: Why Mothers Die Anesthesia-related deaths during obstetric delivery in the United States, Estimation of blood loss after cesarean section and vaginal delivery has low validity with a tendency to exaggeration. Contamination of salvaged maternal blood by amniotic fluid and fetal red cells during elective Caesarean section. Br J Anaesth Int J Gynecol Obstet. Diagnosis and treatment of peripartum bleeding. J Perinat Med Improved accuracy of postpartum blood loss estimation as assessed by simulation. Placental abruption and placenta praevia. Active versus expectant management in the third stage of labour [review]. Cochrane

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Database Syst Rev ;3. Management of the obstetrical patient with hemorrhage due to an acute or subacute defibrination syndrome. Placenta previa and accreta after previous caesarean section. Airway changes during Cesarean hysterectomy. Can J Anesth Continuous epidural anesthesia for elective cesarean hysterectomy. South Med J , Caesarean section for placenta praevia: A retrospective study of anaesthetic management. Diagnosis and management of placenta percreta: Obstet Gynecol Surv Anaesthetic management of placenta accreta: Use of a pre-operative high and low suspicion classification. Anesthetic management for obstetric hysterectomy: Cell salvage in obstetrics: The time has come. Cell salvage during cesarean delivery: Is it safe and valuable? Int J Obstet Anesth Cell salvage in obstetrics. Intrauterine balloon tamponade in the management of postpartum haemorrhage. Embolisation of massive bleeding following hysterectomy, despite internal iliac artery ligation. Br J Obstet Gynaecol. Intrapartum rupture of the unscarred uterus. Am J Obstet Gynecol ; Internal iliac artery ligation for arresting postpartum haemorrhage. Uterine artery ligation in the control of postcesarean hemorrhage. J Reprod Med ; The efficacy of internal iliac artery ligation in obstetric hemorrhage. Surg Gynecol Obstet ; Emergency peripartum hysterectomy in a tertiary obstetric center: Fetal Diagn Ther ; Factors associated with postpartum hemorrhage with vaginal birth. Postpartum hemorrhage after vaginal birth: Postpartum haemorrhage in Zimbabwe: Haemodynamic effects of oxytocin given as i. Br J Anaesth , Signs of myocardial ischaemia after injection of oxytocin: A randomized double-blind comparison of oxytocin and methylergometrine during Caesarean section. Acute anterior wall infarct in a year-old patient after administration of methylergometrin for peripartal vaginal hemorrhage. Management of severe postpartum hemorrhage with a prostaglandin F2 alpha analogue. Life-threatening bronchospasm after intramuscular carboprost for postpartum haemorrhage. Practical use of sulprostone in the treatment of hemorrhages during delivery. J Gynecol Obstet Biol Reprod ; The B-Lynch surgical technique for the control of massive postpartum hemorrhage: Br J Obstet Gynaecol ; Is selective embolization of uterine arteries a safe alternative to hysterectomy in patients with postpartum hemorrhage? Uterine artery embolization in the treatment and prevention of postpartum hemorrhage. Int J Gynaecol Obstet ; Von Willebrand disease and other bleeding disorders in women: The role of the anesthesiologist in management of obstetric hemorrhage. Blood transfusion in obstetrics: Green top guidelines no. RCOG; [<https://www.rcog.org.uk/~/media/RCOG/~/media/RCOG%20Green%20Top%20Guidelines%20-%20Blood%20Transfusion%20in%20Obstetrics.pdf>]

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Chapter 3 : Placenta previa – DOCTOR EB

[From the 2d London ed., improved by the author] Practical observations on the uterine hemorrhage; with remarks on the management of the placenta John Burns Collins and Perkins, - Health & Fitness - pages.

Monday, May 8, Placenta Previa - A Low Lying Placenta With placenta previa, the placenta is implanted in the lower uterine segment, where it encroaches on the internal cervical os. This disorder, one of the most common causes of bleeding during the second half of pregnancy, occurs in approximately 1 in 100 pregnancies, more commonly in multigravidas than in primigravidas. Generally, termination of pregnancy is necessary when placenta previa is diagnosed in the presence of heavy maternal bleeding. Maternal prognosis is good if hemorrhage can be controlled; fetal prognosis depends on gestational age and amount of blood lost. Causes With placenta previa, the placenta may cover all total, complete, or central, part partial or incomplete, or a fraction margin or low-lying of the internal cervical os. The degree of placenta previa depends largely on the extent of cervical dilation at the time of examination because the dilating cervix gradually uncovers the placenta. With placenta previa, the lower segment of the uterus fails to provide as much nourishment as the fundus. The placenta tends to spread out, seeking the blood supply it needs, and becomes larger and thinner than normal. For unknown reasons, eccentric insertion of the umbilical cord often develops. Hemorrhage occurs as the internal cervical os effaces and dilates, tearing the uterine vessels. Signs and symptoms Placenta previa usually produces painless third-trimester bleeding typically the first complaint. However, the fetus remains active, with good heart tones. Complications of placenta previa include shock or maternal and fetal death. Diagnosis Special diagnostic measures that confirm placenta previa include: In most cases, only the cervix is visualized. Treatment Treatment of placenta previa is designed to assess, control, and restore blood loss; to deliver a viable infant; and to prevent coagulation disorders. Immediate therapy includes starting an I. If the fetus is premature – access the degree of placenta previa and necessary fluid and blood replacement have been determined – treatment consists of careful observation, which allows the fetus more time to mature. If clinical evaluation confirms total placenta previa, the patient will likely be hospitalized because of the increased risk of hemorrhage. Immediate delivery by cesarean section may be necessary when the fetus is sufficiently mature or sooner if the patient experiences severe hemorrhage. Vaginal delivery is considered only when bleeding is minimal and the placenta previa is marginal or when labor is rapid. Because of the possibility of fetal blood loss through the placenta, a pediatric team should be on hand during the delivery to immediately assess and treat neonatal shock, blood loss, and hypoxia. Complications of placenta previa necessitate appropriate and immediate intervention. Special considerations If the patient shows active bleeding because of placenta previa, a primary nurse should be assigned for continuous monitoring of maternal blood pressure, pulse rate, respirations, central venous pressure, intake and output, amount of vaginal bleeding, and fetal heart tones. Electronic monitoring of fetal heart tones is also recommended. Prepare the patient and her family for a possible cesarean section and the birth of a premature infant. Thoroughly explain postpartum care so the patient and her family know what measures to expect. Provide emotional support during labor.

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Chapter 4 : My Family Medicine Practice: Placenta Previa - A Low Lying Placenta

Full text of "Burns's Obstetrical works: the anatomy of the gravid uterus: with practical inferences relative to pregnancy and labour: observations on abortion: containing an account of the manner in which it takes place: the causes which produce it: and the method of preventing or treating it: practical observations on the uterine hemorrhage: with remarks on the management of the.

Uterine Massage Brisk blood flow after delivery of the placenta should alert the physician to perform a bimanual examination of the uterus. If the uterus is soft, massage is performed by placing one hand in the vagina and pushing against the body of the uterus while the other hand compresses the fundus from above through the abdominal wall Figure 2. Technique of bimanual massage for uterine atony. Bimanual uterine compression massage is performed by placing one hand in the vagina and pushing against the body of the uterus while the other hand compresses the fundus from above through the abdominal wall. The posterior aspect of the uterus is massaged with the abdominal hand and the anterior aspect with the vaginal hand. Advanced Life Support in Obstetrics course syllabus. American Academy of Family Physicians, Uterotonic Agents Uterotonic agents include oxytocin, ergot alkaloids, and prostaglandins. Oxytocin stimulates the upper segment of the myometrium to contract rhythmically, which constricts spiral arteries and decreases blood flow through the uterus. As much as mL can be infused over 10 minutes without complications. Because ergot alkaloid agents raise blood pressure, they are contraindicated in women with preclampsia or hypertension. Carboprost can be administered intramyometrially or intramuscularly in a dose of 0. Carboprost has been proven to control hemorrhage in up to 87 percent of patients. Side effects include nausea, vomiting, diarrhea, hypertension, headache, flushing, and pyrexia. Doses range from to 1, mcg; the dose recommended by FIGO is 1, mcg administered rectally. Food and Drug Administration for this indication. TRAUMA Lacerations and hematomas resulting from birth trauma can cause significant blood loss that can be lessened by hemostasis and timely repair. Sutures should be placed if direct pressure does not stop the bleeding. Episiotomy increases blood loss and the risk of anal sphincter tears, 11 , 12 , 40 and this procedure should be avoided unless urgent delivery is necessary and the perineum is thought to be a limiting factor. Small hematomas can be managed with close observation. In patients with diffuse oozing, a layered closure will help to secure hemostasis and eliminate dead space. Uterine Inversion Uterine inversion is rare, occurring in 0. Vasovagal effects producing vital sign changes disproportionate to the amount of bleeding may be an additional clue. The placenta often is still attached, and it should be left in place until after reduction. The Johnson method of reduction begins with grasping the protruding fundus Figure 3A 29 with the palm of the hand and fingers directed toward the posterior fornix Figure 3B The uterus is returned to position by lifting it up through the pelvis and into the abdomen Figure 3C If initial attempts to replace the uterus fail or a cervical contraction ring develops, administration of magnesium sulfate, terbutaline Brethine , nitroglycerin, or general anesthesia may allow sufficient uterine relaxation for manipulation. If these methods fail, the uterus will need to be replaced surgically. Reduction of uterine inversion Johnson method. A The protruding fundus is grasped with fingers directed toward the posterior fornix. B, C The uterus is returned to position by pushing it through the pelvis and into the abdomen with steady pressure towards the umbilicus. Uterine Rupture Although rare in an unscarred uterus, clinically significant uterine rupture occurs in 0. However, the incidence of rupture is still low i. When detected in the postpartum period, a small asymptomatic lower uterine segment defect or bloodless dehiscence can be followed expectantly. Placental delivery can be achieved by use of the Brandt-Andrews maneuver, which involves applying firm traction on the umbilical cord with one hand while the other applies suprapubic counterpressure Figure 4 This significantly reduces the need for manual removal of the placenta compared with injecting saline alone. If the tissue plane between the uterine wall and placenta

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cannot be developed through blunt dissection with the edge of the gloved hand, invasive placenta should be considered. Brandt-Andrews maneuver for cord traction. Firm traction is applied to the umbilical cord with one hand while the other applies suprapubic counterpressure. Invasive placenta can be life threatening. Patients also can develop HELLP hemolysis, elevated liver enzyme levels, and low platelet levels syndrome or disseminated intravascular coagulation. Risk factors for disseminated intravascular coagulation include severe pre-eclampsia, amniotic fluid embolism, sepsis, placental abruption, and prolonged retention of fetal demise. Coagulation defects should be suspected in patients who have not responded to the usual measures to treat post-partum hemorrhage, and in those who are not forming blood clots or are oozing from puncture sites. Evaluation should include a platelet count and measurement of prothrombin time, partial thromboplastin time, fibrinogen level, and fibrin split products. Management consists of treating the underlying disease process, supporting intravascular volume, serially evaluating coagulation status, and replacing appropriate blood components. Administration of recombinant factor VIIa or clot-promoting medications.

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Chapter 5 : Obstetric hemorrhage: anesthetic implications and management – Anaesthesia, Pain & Inter

STEP 2: Apply direct pressure to the uterine cavity. If uterotonic medications fail to control bleeding and improve uterine tone, apply direct pressure to the uterine cavity by packing it with gauze 3,4 or inserting a Bakri tamponade balloon device (Cook Women's Health, Spencer, Ind). 5.

Total occlusion of internal cervical os Discussion: Placenta previa is defined as the presence of placental tissue over or adjacent to the cervical os, and can be described within a variety of possibilities: Total placenta previa – the internal os is covered completely by placenta Partial placenta previa – the internal os is partially covered by placenta Marginal placenta previa – the edge of the placenta is at the margin of the internal os Low-lying placenta – the placenta is implanted in the lower uterine segment such that the placental edge does not reach the internal os, but is in close proximity to it Vasa previa – the fetal vessels course through membranes and present at the cervical os Diagram showing different categorizations of placenta previa. Classically, the clinical presentation of placenta previa is painless vaginal bleeding in the second or third trimester. In contrast, placental abruption, classically presents with painful vaginal bleeding. Below is a list of several risk factors that are associated with placenta previa. Our patient had several, including increased parity, increased maternal age, and residence in higher altitude. List of associated risk factors for placenta previa. Ultrasound can not only diagnose placenta previa, but further define it as complete, partial, or marginal, which can have implication in how to manage the patient. Many cases of placenta previa that are diagnosed in the second trimester will resolve by the third trimester. Compare with the 2 textbook images shown below. A cervical examination was deferred in our patient, as appropriate management. Because of the risk of provoking life-threatening hemorrhage, a digital examination is absolutely contraindicated until placenta previa is excluded. Such digital cervical examination is never permissible unless the woman is in an operating room with all the preparations for immediate cesarean delivery – even the gentlest digital examination can cause torrential hemorrhage. Women with a previa may be considered in one of the following categories: The fetus is preterm and there are no other indications for delivery The fetus is reasonably mature Labor has ensued Hemorrhage is so severe as to mandate delivery despite gestational age. Although our patient was clinically stable, her bleeding could not be appropriately controlled. It was also felt that her fetus was reasonably mature, and the decision was made to do an emergency cesarean section. Furthermore, as part of management, large-bore intravenous access and baseline laboratory studies hemoglobin, hematocrit, platelet count, blood type and screen, and coagulation studies should be obtained. Some pictures below show the cesarean operation of our patient, and the delivery of a healthy baby: Prepping the patient before surgery.

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Chapter 6 : Obstetrical works. The anatomy of the gravid uterus: with practical - John Burns - Google Books

Burns, John, Practical observations on the uterine hemorrhage.; practical observations on the uterine hemorrhage: with remarks on the management of the.

Bleeding in the second half of pregnancy and in labor due to placental abnormalities include placenta previa, abruptio placentae, placenta accreta and vasa previa. Third-trimester bleeding complicates about 3. Therefore, third-trimester bleeding ultimately proves to be of little consequence in about half the cases, but in the other half it is potentially life-threatening. Vaginal bleeding in the third-trimester is alarming to the pregnant woman and usually prompts immediate consultation with the physician. The purpose of this document is to present evidence-based approach to the management of placental abnormalities and major obstetric hemorrhage. Attention to improving the hospital systems is necessary for the care of women at risk for major obstetric hemorrhage. It is important in the effort to decrease maternal mortality from hemorrhage. Multidisciplinary team implementation systemic changes are also discussed. It is the responsibility of the physician to decide without delay whether the cause is benign or potentially life-threatening to the mother, fetus, or both. The potential harm from either procrastination or unnecessary intervention may be extreme. Placenta Previa Placenta previa is defined as implantation of the placenta in the lower uterine segment in advance of the fetal presenting part. The placenta either totally or partially lies within the lower uterine segment. Placenta previa complicates approximately 0. Although some distinctions in outcome may be made among the different degrees of true placenta previa, all are potentially associated with life-threatening hemorrhage during labor. The degree of placenta previa cannot alone predict the clinical course accurately, nor can it serve as the sole guide for management decisions. Thus, the importance of such classifications has diminished. Traditionally, placenta previa has been categorized into 4 types 1: Thus, this scenario occurs only when the internal os is dilated to some degree; Marginal placenta previa: Types of placenta previa. The women at highest risk are those with prior placenta previa or multiple prior cesarean sections. The strong association between placenta previa and parity has suggested that "endometrial damage" is an etiologic factor. Presumably, each pregnancy "damages" the endometrium underlying the implantation site, rendering the area unsuitable for implantation. Subsequent pregnancies are more likely to become implanted in the lower uterine segment by a process of elimination. This effect is most clearly seen with prior term pregnancies, but multiple early pregnancy terminations may also be related to an increased incidence of placenta previa. There is evidence that low implantations are much more common early in pregnancy, but that the great majority of these "resolves" and never become symptomatic. Although the term "placental migration" has been used, most authorities do not believe the placenta moves. Rather, it is felt the placenta grows preferentially toward a better vascularized fundus trophotropism, whereas the placenta overlying the less well vascularized cervix may undergo atrophy 2. Subsequent growth of the placenta after low implantation is either centripetal resulting in central placenta previa or unidirectional toward the more richly vascularized fundus. The latter mechanism is common, as demonstrated by the finding of an eccentric, marginal, or even velamentous insertion of the cord. The association of velamentous cord insertions with placenta previa and the pathologic entity of vasa previa are both consistent with a dynamic process sometimes called "placental migration". Unidirectional growth of the placenta coupled with disappearance of the early placenta at the original implantation site results in a placenta that appears to have moved away from its original location. The insertion point of the cord on the membranes marks the original location of the definitive placenta. The primary implantation site is probably low in the great majority of cases. An alternative mechanism involving fundal implantation with unidirectional growth toward the cervix has been suggested, but this mechanism has been observed only rarely with serial sonograms. Therefore, a fundal placenta in the second trimester is reassuring evidence that a placenta previa

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will not exist in the third trimester. The classic clinical presentation of placenta previa is painless bleeding in the late second trimester or early third trimester. However, some patients with placenta previa will experience painful bleeding, possibly the consequence of uterine contractions or placental separation, whereas others will experience no bleeding at all before labor. Placenta previa may also lead to an unstable lie or malpresentation in late pregnancy. The majority of cases of placenta previa are diagnosed during routine sonography in asymptomatic women, usually during the second trimester. The initial episode of bleeding has a peak incidence at about the 34th week of pregnancy, although one-third of cases become symptomatic before the 30th week and one-third after the 36th week. Absence of bleeding prior to term does not rule out placenta previa. Although transabdominal sonography is frequently used for placental location, this technique lacks some precision in diagnosing placenta previa. Numerous studies have demonstrated the accuracy of transvaginal sonography for the diagnosis of placenta previa, uniformly finding that transvaginal sonography is superior to transabdominal sonography for this finding. Transvaginal imaging technique if used properly does not lead to increase in bleeding³. This is for 2 main reasons: Nonetheless, the examination should be performed by personnel experienced in transvaginal sonography, and the transvaginal probe should always be inserted carefully, with the examiner looking at the monitor to avoid putting the probe in the cervix. Translabial sonography has been suggested as an alternative to transvaginal sonography and has been shown superior to transabdominal sonography for placental location. However, because transvaginal sonography is accurate, safe and well tolerated, it should be the imaging modality of choice. The two major factors have been responsible for the dramatic reduction in both maternal and perinatal mortality rates over the past 40 years: The goal of management for placenta previa is to obtain the maximum fetal maturation possible while minimizing the risk to both the fetus and the mother. The basis for this approach is that episodes of bleeding are usually self-limited and not fatal to either the fetus or the mother in the absence of inciting trauma^e. Under carefully controlled conditions, delivery of the fetus may be safely delayed to a more advanced stage of maturity in a significant proportion of cases. An additional advantage to this approach is that a small proportion of cases, particularly those discovered early with lesser degrees of placenta previa, will resolve to an extent permitting vaginal delivery at term. It is reasonable to hospitalize women with placenta previa while they are having an acute bleeding episode or uterine contractions. Women who present with bleeding in the second half of pregnancy should have a sonographic examination for placental location prior to any attempt to perform a digital examination. Digital examination with a placenta previa may provoke catastrophic hemorrhage and should not be performed. One to two wide-bore intravenous cannulas should be inserted and blood taken for a full blood count and type and screen. In the absence of massive bleeding or other complications, coagulation studies are not helpful. The blood bank must be capable of making available at least 4 units of compatible packed red blood cells and coagulation factors at short notice. Rh immune globulin should be administered to Rh-negative women. A Kleihauer-Bettke test for quantification of fetal-maternal transfusion should also be performed in Rh-negative women because the mother may require increased doses of Rh immune globulin. Small studies have suggested a benefit of tocolytic therapy for women with placenta previa who are having contractions⁴. Contractions may lead to cervical effacement and changes in the lower uterine segment, provoking bleeding, which in turn, stimulates contractions, creating a vicious cycle. Steroids should be administered in women between 24 and 34 weeks of gestation, generally at the time of admission for bleeding, to promote fetal lung maturation. The patient and her family should have a neonatology consultation so that the management of the infant after birth may be discussed. In women who have a history of cesarean delivery or uterine surgery, detailed sonography should be performed to exclude placenta accreta. Before 32 weeks of gestation, moderate-to-severe bleeding when there is no maternal or fetal compromise may be managed aggressively with blood transfusions, rather than resorting to delivery. When the patient has had no further bleeding for 48 hours, she may be considered for discharge as long as there are appropriate

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home conditions to allow outpatient management. Women who are stable and asymptomatic, and who are reliable and have quick access to hospital, may be considered for outpatient management. Timing of Delivery and Mode of Delivery: As gestational age advances, there is an increased risk of significant bleeding, necessitating delivery. It is preferable to perform a cesarean delivery for placenta previa under controlled scheduled conditions rather than as an emergency. In a stable patient, it is reasonable to perform a cesarean delivery at weeks of gestation, after documentation of fetal lung maturity by amniocentesis. If the amniocentesis does not demonstrate lung maturity and patient is stable it is reasonable to wait till 38 or 39 weeks of pregnancy or earlier if bleeding occurs or patient goes into labor. There is consensus that a placenta previa which totally or partially overlies the internal cervical os requires delivery by cesarean. However, the mode of delivery when the placenta lies in proximity to the internal os is more controversial. Women with a placenta -- internal os distance of less than 2 cm who undergo a trial of labor almost invariably experience significant bleeding during labor, necessitating cesarean delivery and many centers recommend cesarean delivery in these cases. Women whose placentas are 2 cm or more away from the os can undergo a normal labor. It is important to realize that, in women with a placenta that extends into the non-contractile lower uterine segment who have a vaginal delivery, there is potential for postpartum hemorrhage. It was believed that this allowed more controlled surgery. Many studies have found these are associated with significantly greater estimated blood loss and greater requirements for blood transfusion than those performed under regional anesthesia, possibly due to increased uterine relaxation associated with general anesthetic 5. Many institutions generally perform cesarean deliveries for placenta previa under regional anesthesia. Abruption Placentae The term abruption placentae denote separation of a normally implanted placenta prior to the birth of the fetus. The diagnosis is most commonly made in third trimester, but the term may be used after the 20th week of pregnancy when the clinical and pathologic criteria are met. This is uniquely dangerous condition to both the mother and the fetus because of its pathologic sequelae. Placental separation is a serious complication of pregnancy. The reported incidence varies from 0. Abruption placentae are initiated by bleeding into the decidua basalis. In most cases the source of the bleeding is small arterial vessels in the basal layer of the decidua that are pathologically altered and prone to rupture. The resultant hemorrhage splits the decidua, leaving a thin layer attached to the placenta. As the decidual hematoma grows there is further separation. Compression by the expanding hematoma leads to obliteration of the overlying inter-villous space. Ultimately there is destruction of the placental tissue in the involved area. This area may often be identified on gross inspection of the placenta by an organized clot lying within a cup-shaped depression on the maternal surface. From the standpoint of the fetus, this occurrence represents a loss of surface area for exchange of respiratory gases and nutrients. In a small number of cases, the process may be self-limited and of no further consequence to the pregnancy. If the initial separation is toward the center of the placenta there may be continued dissection and separation in the decidua as well as extravasation into the myometrium and through to the peritoneal surface. This results in the so-called Couvelaire uterus. Once the blood reaches the edge of the placenta it may continue to dissect between the decidua and the fetal membranes and gain access to the vagina through the cervix.

Chapter 7 : - NLM Catalog Result

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Chapter 9 : Women's Health and Education Center (WHEC) - Placental Abnormalities & Major Obstetric H

The provider properly performs the specific management of the cause of the PPH OR reviews records 01 Identifies the cause of bleeding and initiates specific management immediately, as verified by observation or clinical records.