

Contents

| | |
|--|-------------|
| Foreword: Emergencies in Obstetrics and Gynecology: Readiness, Recognition, Response, and Reporting | xiii |
|--|-------------|

William F. Rayburn

| | |
|---|-----------|
| Preface: Emergencies in Obstetrics and Gynecology: Advances and Current Practice | xv |
|---|-----------|

Patricia S. Huguélet and Henry L. Galan

| | |
|---|------------|
| Postpartum Hemorrhage Management and Blood Component Therapy | 397 |
|---|------------|

Katie W. Zeng, Kelsie J. Ovenell, Zachary Alholm, and Michael R. Foley

This article serves to highlight both the common nature and severity of postpartum hemorrhage (PPH). Identification of etiologies and management of each is reviewed. In addition, the evaluation and administration of proper blood component therapies and massive transfusion are also explained to help providers become comfortable with early administration and delivery of blood component therapies.

| | |
|---|------------|
| Placenta Accreta Spectrum: Prenatal Diagnosis and Management | 423 |
|---|------------|

Rebecca Horgan and Alfred Abuhamad

The incidence of placenta accreta spectrum (PAS) is increasing and is now about 3 per 1000 deliveries, largely due to the rising cesarean section rate. Ultrasound is the preferred method for diagnosis of PAS. Ultrasound markers include multiple vascular lacunae, loss of the hypoechoic retroplacental zone, abnormalities of the uterine serosa–bladder interface, retroplacental myometrial thickness less than 1 mm, increased placental vascularity, and observation of bridging vessels linking the placenta and bladder. Patients with PAS should be managed by experienced multidisciplinary teams. Hysterectomy is the accepted management of PAS and conservative or expectant management of PAS should be considered investigational.

| | |
|---|------------|
| Pulmonary Embolism and Amniotic Fluid Embolism | 439 |
|---|------------|

Ashley S. Coggins, Erin Gomez, and Jeanne S. Sheffield

Venous thromboembolism (VTE) as well as other embolic events including amniotic fluid embolism (AFE) remain a leading cause of maternal death in the United States and worldwide. The pregnant patient is at a higher risk of developing VTE including pulmonary embolism. In contrast, AFE is a rare, but catastrophic event that remains incompletely understood. Here the authors review the cause of VTE in pregnancy and look at contemporary and evidence-based practices for the evaluation, diagnosis, and management in pregnancy. Then the cause and diagnostic difficulty of AFE as well as what is known regarding the pathogenesis are reviewed.

- Septic Shock and Cardiac Arrest in Obstetrics: A Practical Simplified Clinical View** 461
Luis D. Pacheco, Megan C. Shepherd, and George S. Saade
Septic shock and cardiac arrest during pregnancy, despite being uncommon, carry a high mortality rate among pregnant individuals. Basic initial management strategies are fundamental to improve clinical outcomes; obstetricians and maternal-fetal medicine specialists need to be familiar with such interventions.
- Endocrine Emergencies During Pregnancy: Diabetic Ketoacidosis and Thyroid Storm** 473
Odessa P. Hamidi and Linda A. Barbour
The physiologic changes and common signs and symptoms of pregnancy can make the early recognition of endocrine emergencies more challenging. Diabetic ketoacidosis (DKA) can occur at only modestly elevated glucose levels (euglycemic DKA), often accompanied by starvation ketosis due to substantial fetal-placental glucose demands and is associated with a high stillbirth rate. Thyroid storm is life threatening with a higher rate of heart failure and both require prompt and aggressive treatment to avoid maternal and fetal morbidity and mortality. Treatment of these disorders and the special considerations for recognition and management in the context of pregnancy are reviewed.
- Shoulder Dystocia: Challenging Basic Assumptions** 491
Suneet P. Chauhan and Robert B. Gherman
Most of our knowledge pertaining to this obstetric emergency has emanated from case reports and retrospective studies that have subsequently resulted in empirical management protocols. This article has identified the existence of large gaps in our clinical knowledge base regarding the prevention and resolution of shoulder dystocia, as well as its long-term sequelae. We have attempted to challenge current recommendations regarding whether prophylactic cesarean delivery should be performed based on estimated fetal weight alone or a prior history of shoulder dystocia, shoulder dystocia management techniques, what defines “excessive” traction, and the role of simulation training for all clinicians.
- Hypertensive Crisis in Pregnancy** 501
Cynthia K. Wautlet and Maria C. Hoffman
Severe hypertension in pregnancy is a medical emergency, defined as systolic blood pressure (BP) ≥ 160 mm Hg and/or diastolic BP ≥ 110 mm Hg taken 15 minutes to 4 or more hours apart. Outside pregnancy, acute severe hypertension (HTN) is defined as a BP greater than 180/110 to 120 reproducible on 2 occasions. The lower threshold for severe HTN in pregnancy reflects the increased risk for adverse outcomes, particularly maternal stroke and death, and may be a source of under-recognition and treatment delay, particularly in nonobstetrical health care settings. Once a severe hypertension episode is recognized, antihypertensive therapy should be initiated as soon as feasibly possible, at least within 30 to 60 minutes. Intravenous (IV) labetalol, hydralazine, and oral immediate-release nifedipine are all recommended first-line agents and should be administered according to available institutional protocols and based on provider knowledge and familiarity.

- Pediatric and Adolescent Gynecologic Emergencies** 521
Stephanie M. Cizek and Nichole Tyson
- Diagnosis of gynecologic emergencies in the pediatric and adolescent population requires a high index of suspicion to avoid delayed or incorrect diagnoses. This article aims to dispel common misunderstandings and aid with diagnosis and management of 3 common pediatric and adolescent gynecologic emergencies: adnexal torsion, vulvovaginal lacerations, and nonsexually acquired genital ulcers.
- Ectopic Pregnancy** 537
Shawna Tonick and Christine Conageski
- Ectopic pregnancy occurs in 2% of all pregnancies and is a potentially life-threatening emergency. A high level of clinical suspicion is required for any pregnant patient who presents with vaginal bleeding and/or pelvic pain. Workup should begin with immediate triage based on vital signs, a pregnancy test, and transvaginal ultrasound. Ectopic pregnancy can be treated either medically with methotrexate or surgically with either salpingectomy or salpingostomy. Carefully counseled, asymptomatic patients may be candidates for expectant management.
- Identification and Treatment of Acute Pelvic Inflammatory Disease and Associated Sequelae** 551
Danielle N. Frock-Welnak and Jenny Tam
- Pelvic inflammatory disease (PID) is an ascending polymicrobial infection of the upper female genital tract. The presentation of PID varies from asymptomatic cases to severe sepsis. The diagnosis of PID is often one of exclusion. Primary treatment for PID includes broad-spectrum antibiotics with coverage against gonorrhea, chlamydia, and common anaerobic and aerobic bacteria. If not clinically improved by antibiotics, percutaneous drain placement can promote efficient source control, as is often the case with large tubo-ovarian abscesses. Ultimately, even with treatment, PID can result in long-term morbidity, including chronic pelvic pain, infertility, and ectopic pregnancy.
- Sexual Assault/Domestic Violence** 581
Ruth E.H. Yemane and Nancy Sokkary
- Sexual assault and intimate partner violence (IPV) of children, adolescents, and adult women are prevalent in the United States and have long-term physical and mental health, financial, and social effects. Pregnant women and women of color are particularly high-risk populations. Obstetrics and gynecology providers are uniquely situated to assess and treat survivors of IPV and sexual assault. A timely, thorough forensic medical examination, appropriate evaluation, and prophylactic therapy are all vital components in the care of these patients.
- Evaluation and Management of Heavy Vaginal Bleeding (Noncancerous)** 591
Bridget Kelly and Emily Buttigieg
- Heavy vaginal bleeding is a common, life-altering condition affecting around 30% of women at some point in their reproductive lives. Initial

evaluation should focus on hemodynamic stability. A thorough history including the patient's menstrual cycle and personal and family bleeding history should be obtained. Causes are stratified using the structural and nonstructural International Federation of Gynecology and Obstetrics classification system. Further consideration of the patient's age is essential because this can help to narrow the differential diagnosis. Work-up includes laboratory and imaging studies. Treatment approach includes acute stabilization and long-term treatment with medical and surgical modalities.

Bleeding from Gynecologic Malignancies

607

Megan L. Hutchcraft and Rachel W. Miller

Initial assessment of vaginal bleeding in gynecologic malignancies includes a thorough history and physical examination, identification of site and extent of disease, and patient goals of care. Patients who are initially hemodynamically unstable may require critical care services. Choice of treatment is disease site specific. Cervical cancer frequently is treated with chemoradiation. Uterine cancer may be treated surgically, with radiation, or pharmacologically. Gestational trophoblastic disease is treated surgically. Alternative treatment modalities include vascular embolization and topical hemostatic agents. Patients with bleeding gynecologic malignancies should be managed as inpatients in facilities with gynecologic oncology, radiation oncology, and critical care services.

First Trimester Miscarriage

623

Maria Shaker and Ayanna Smith

First trimester miscarriage, or early pregnancy loss, is a common occurrence in the United States. Miscarriage management includes expectant, medical, or surgical approaches. Decisions about management options should be approached through shared decision making between the patient and provider and with consideration of patient's preferences, hemodynamic stability, cost, gestational age, and effectiveness. Emergencies requiring immediate interventions are rare. Newer developments in management, including a more effective medical regimen with the addition of mifepristone and cost-effective and convenient in-office surgical interventions, have expanded treatment options.

Simulation in Obstetric Emergencies

637

Jean-Ju Sheen, Dena Goffman, and Shad Deering

Simulation is a critical part of training for obstetric emergencies. Incorporation of this training modality has been shown to improve outcomes for patients and is now required by national accrediting organizations.