Complications in Obstetric and Gynecologic Surgery

Prevention, Diagnosis, and Treatment

Edited by

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PREFACE

A telephone call at 3 a.m. from a resident or nurse in the hospital saying "Doctor, the patient you operated [or delivered] earlier today is in shock" is a most distressing awakening. While driving to the hospital, you try to gather your thoughts and think what might have gone wrong, what your plan of action will be when you arrive, what you will say to the husband when you call and advise him that his wife is being taken back into the operating room.

Complications in obstetric and gynecologic patients may arise suddenly or may not appear for several hours—or even days or weeks. They may arise even with good judgment and technique, because of factors beyond our control. All of us have been "in trouble" at or after a delivery or operation—only those who do not operate often or have poor memories do not face complications. This book was undertaken to provide a modus operandi for the prevention, diagnosis, and treatment of these situations, and it is our hope that this volume will enable the reader to manage properly a greater variety of complications than he previously could.

We have asked physicians who have special expertise in various aspects of our discipline to discuss the complications about which they have become expert, so that the reader can benefit from their experiences. To our friends and colleagues who contributed chapters, time, and effort, we are most grateful.

Newer techniques in obstetrics and gynecology in the past decade have brought newer procedures such as laparoscopy, amniocentesis, minitubal ligation, and several techniques for first and second trimester abortion; we also have the IUD and a large number of new antibiotics—many of which have been responsible for additional complications.

A theme constantly repeated by many authors is the necessity of competent anesthesia, able assistance, adequate exposure, and proper lighting.

Some postoperative complications, including infections, are the result of poor surgical technique rather than contamination. Antibiotics administered before, during, or after operation cannot compensate for this. This inadequate technique often goes unnoticed because of the body's natural ability to heal itself.

Unnecessarily prolonged surgery results in airborne contamination and tissue drying, which foster infection. Too frequently a small incision is made,

necessitating traumatic retraction. Less traumatizing instruments and finer suture material have diminished formation of dead tissue and foreign bodies with resulting anaerobic infections.

However, this is not a text on general surgical technique. In some instances, the authors have described specific techniques that are used to avoid complications. Techniques for procedures not involving the genital tract (such as repair of ureteral or intestinal injuries) are included, since they are usually not found in gynecology texts. Most of us agree that the surgeon who opens the abdomen should be prepared to deal with any emergency. There are gynecologic oncologists who are trained to perform bowel, urinary tract, blood vessel surgery, and most other emergencies that may arise. However, most of the complications in obstetric and gynecologic surgery do not occur from radical surgery, but rather from the simple hysterectomy, as Dr. Symmonds has pointed out, or from a normal pregnancy as discussed in the chapters on normal delivery, antepartum and postpartum hemorrhage.

The topics we have selected are those frequently encountered in the usual obstetric and gynecologic practice; a few more are rarely encountered, but the physician should be familiar with their management. To the authors' views on prevention, diagnosis, and treatment of various complications, the editors have appended (in the Editorial Comment section) their own observations as well as those from the literature. Whenever possible, we have attempted to offer the reader an alternative method of management.

While this book is concerned with surgical complications in obstetrics and gynecology, we would be remiss if we did not mention the emotional impact that pelvic surgery or delivery has on a woman. The psychologic trauma may be more devastating than the surgical complication. We have made it a practice in making daily rounds to sit in a chair at the bedside of the patient for a few minutes, instead of standing over her bed. We believe this is important in making the patient feel that we are prepared to discuss any of her problems, and that we are not rushing in and out of her room before office hours or before our next operation. Nothing can replace careful, daily observation of the patient by her physician. This can do much to stem the large number of malpractice suits that have become so prevalent in our specialty.

Any preoperative procedures that would help make the diagnosis more accurate, and the plan of operation more specific, should be carried out. These may be x-rays of the chest, urinary or gastrointestinal tract; sonograms; laparoscopy, or CAT scans. Consultation with one or more colleagues is often desirable, and frequently sought by thoroughly competent physicians regarding the care of patients who have unusually serious conditions or complications. The patient may request such an opinion, and such requests should be encouraged and honored.

As important as the indications for surgery are the *contra*indications. The aid of the internist to evaluate the pulmonary and cardiac status of the patient, as well as consultation with the anesthesiologist before operation, will do much to avoid unexpected complications.

For many years education for parenthood and preparation for labor have been popular, so that the new or expectant mother and father can be taught facts, exercises, and knowledge of what to anticipate. Many problems can thus be prevented. The obstetrician, too, should be *prepared* to manage childbirth,

to anticipate and prevent many of the emergencies that arise, and to treat them when they occur. The best method of avoiding complications, as well as the best treatment, is their prevention.

In reviewing the manuscripts from the various contributors, it became apparent that similar complications were encountered in the various subspecialties. Thus the ureter or bowel could be injured in any pelvic operation. Abdominal wounds could become infected after any procedure. Hemorrhage was possible from the moment the original incision was made. To avoid repetition, it was necessary for the editors to delete from some chapters material that had been included in another. We apologize to our authors for these deletions, as well as for those made in subjects unrelated to surgical complications.

We are extremely grateful to Ms. Jackie Emel for typing and retyping our comments, a task which was difficult since the editors were geographically 3000 miles apart.

We are most grateful to the staff of Harper & Row for their patience and forbearance, for continual encouragement and advice. Without their help, this book would never have been written.

GEORGE SCHAEFER, M.D.
EDWARD A. GRABER, M.D.

CONTENTS

1 NORMAL SPONTANEOUS DELIVERY

GEORGE SCHAEFER, EDWARD A. GRABER

Normal labor and delivery may be anticipated in the great majority of instances. However, every woman in labor represents a possible emergency. Many of these emergencies can be prevented by awareness of the conditions that are most likely to produce them. Less frequent complications, such as placenta accreta and rupture of the utero-ovarian vein, are rare and cannot be prevented.

Obstetric emergencies develop suddenly and must be immediately recognized and promptly treated to avoid mortality and morbidity. Thus routine inspection of the entire birth canal should be an integral part of every delivery.

PREVENTION OF COMPLICATIONS

A complete antepartum history and record, including all the routine laboratory work, should be available with each patient admitted in labor. This record should be present on the delivery floor from the seventh month of pregnancy. On admission of the patient to the hospital, an interim history should be taken and a physical examination made of the heart, lungs, blood pressure, and abdomen, determination of the fetal presentation and position, and a pelvic examination. Blood should be drawn for type and crossmatching, and a urinalysis and hemoglobin and hematocrit tests should be performed. A note should be made as to the time and content of the patient's last meal, whether she had taken any recent medication, and whether she has any drug sensitivities.

An emergency tray with all the instruments and medications necessary must always be present in the delivery room. Proper assistance, excellent lighting and the correct instruments must be immediately available.

To prevent complications, careful observations by the entire delivery team must be made throughout labor. The following abnormalities in labor should alert one that more active intervention is necessary: fetal tachycardia, or bradycardia, meconium-stained amniotic fluid, unengaged presenting part in the primigravida, failure of progressive cervical dilation, elevated blood pressure, low blood pressure, fever, foul vaginal discharge, persistent abdominal pain or tenderness, uterine tetany, prolapsed cord, and cyanosis. Early detection of these abnormalities may enable the proper procedures be instituted before complications become severe.

The more frequent use, in most medical centers, of electronic, automatic, continuous intrapartum monitoring of the fetal heart and of maternal uterine contractions has provided a means of evaluating both the condition of the fetus and of the mother during labor. Combined with this, fetal scalp blood sampling for determination of pH makes possible the detection of early fetal distress and intervention when indicated.

EPISIOTOMY

EXCESSIVE BLOOD LOSS FROM EPISIOTOMY

A midline episiotomy causes less blood loss than does a mediolateral episiotomy since the midline incision is through the less vascular median raphe rather than through more bloody muscles and fatty tissue.[1, 8] The episiotomy should not be cut too early before delivery of the infant, as a large amount of blood can be lost in the period before the head is born. The episiotomy should be performed when the infant's head distends the perineum, producing a tamponade effect.

If the delivery does not occur soon after the episiotomy, pressure is applied to the bleeding area with 4 × 4 gauze sponges until the head is born. Bleeding from large vessels should be clamped and ligated while delivery is awaited.

Excessive bleeding may occur in patients who have bleeding tendencies or coagulation defects. If such conditions are suspected, a hematologist should be consulted before delivery and the defect corrected before or early in labor, if possible.

EXTENSION OF EPISIOTOMY

PREVENTION

To prevent extension of the episiotomy, a large enough and high enough incision should be made. The tendency is to cut the perineum and not realize that the vagina is distended by the infant's head and shoulders and may tear upwards, either along the episiotomy incision or laterally, giving rise to sulcus tears on one or both sides. The vaginal mucosa, submucosal connective tissue and the musculofascial sheath should be incised to a height of 5–8 cm from the introitus.[13]

REPAIR OF EXTENSION OF EPISIOTOMY

A continuous locked 2-0 to 4-0 chromic stuture is used on an atraumatic needle, and the first suture is placed above the apex of the tear or episiotomy. The needle is passed through the vaginal mucosa on the left side of the wound, through the muscle and fascia underneath and then brought out and passed through the muscle and fascia on the right side and then through the mucosa on the right side. The rectum is depressed by the operator's left index finger to avoid inserting the needle through it.

This suture is continued down to the hymenal ring and passed below the fourchette, picking up the fascia and bulbocavernous muscle on the left side. The needle then picks up the muscle and fascia on the right side. It is held for suture of the subcutaneous perineal tissue and for subcuticular closure of the skin of the perineum. Several 2-0 or 3-0 chromic interrupted sutures are placed in the deep muscles of the perineal body to approximate these structures in the midline.

Deep lacerations are closed in layers, to avoid leaving dead space where hematoma formation may occur. To keep the cervix out of the field, a sponge or packing is used during the suturing. Large vessels are ligated individually. If there are lacerations on both sides of the vagina, the operator sutures each separately while controlling bleeding on the other side with a packing.

After suturing the deep lacerations, the operator inspects the entire vagina to make certain that there are no areas that have not been sutured. A rectal examination will ascertain whether any sutures have passed through the rectal mucosa or if an abnormal opening is present. Oozing from the area of the suture line may require several figure-of-eight sutures. Packing may be used to prevent oozing following suturing of the mucosa. Such packing, judiciously placed, may prevent hematoma formation in the surrounding tissue and help elevate the fundus out of the pelvis. Packing should be removed in 12–24 hours.

INCISION OF THE RECTUM DURING EPISIOTOMY

PREVENTION

If episiotomy is done before maximum perineal distention by the fetal head, two fingers placed in the vagina in an inverted V manner to depress the vaginal wall posteriorly and inferiorly will mimic distention of the perineum by the fetal head. Failure to do this, particularly if the episiotomy is cut early, will result in the production of a buttonhole in the rectum above the sphincter muscle. There usually is an area of intact vaginal mucosa immediately above the anal opening.