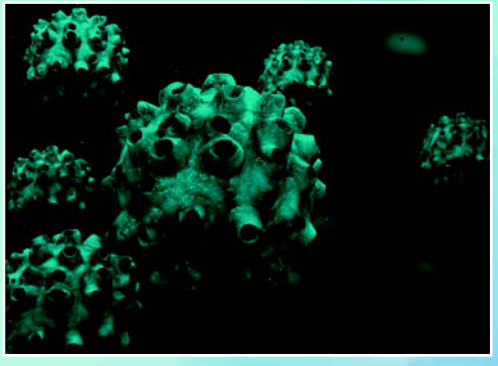
GYNECOLOGY IN PRACTICE

Series editor **Aydin Arici**

Sexually Transmitted Diseases



Edited by

Richard H. Beigi

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Sexually Transmitted Diseases

This book is dedicated to all of my excellent mentors and to my family for their ongoing support.

GYNECOLOGY IN PRACTICE SERIES EDITOR: AYDIN ARICI

Sexually Transmitted Diseases

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Series Foreword

In recent decades, massive advances in medical science and technology have caused an explosion of information available to the practitioner. In the modern information age, it is not unusual for physicians to have a computer in their offices with the capability of accessing medical databases and literature searches. On the other hand, however, there is always a need for concise, readable, and highly practicable written resources. The purpose of this series is to fulfill this need in the field of gynecology.

The *Gynecology in Practice* series aims to present practical clinical guidance on effective patient care for the busy gynecologist. The goal of each volume is to provide an evidence-based approach for specific gynecologic problems. "Evidence at a glance " features in the text provide summaries of key trials or landmark papers that guide practice, and a selected bibliography at the end of each chapter provides a springboard for deeper reading. Even with a practical approach, it is important to review the crucial basic science necessary for effective diagnosis and management. This is reinforced by "Science revisited" boxes that remind readers of crucial anatomic, physiologic or pharmacologic principles for practice.

Each volume is edited by outstanding international experts who have brought together truly gifted clinicians to address many relevant clinical questions in their chapters. The first volumes in the series are on *Chronic Pelvic Pain*, one of the most challenging problems in gynecology, *Disorders of Menstruation*, *Infertility*, and *Contraception*. These will be followed by volumes on *Sexually Transmitted Diseases*, *Menopause*, *Urinary Incontinence*, *Endoscopic Surgeries*, and *Fibroids*, to name a few. I would like to express my gratitude to all the editors and authors, who, despite their other responsibilities, have contributed their time, effort, and expertise to this series.

Finally, I greatly appreciate the support of the staff at Wiley-Blackwell for their outstanding editorial competence. My special thanks go to Martin Sugden, PhD; without his vision and perseverance, this series would not have come to life. My sincere hope is that this novel and exciting series will serve women and their physicians well, and will be part of the diagnostic and therapeutic armamentarium of practicing gynecologists.

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Preface

Sexually transmitted diseases (STDs) have been recognized for centuries, are the subject of many ancient writings, and have likely been present for at least as long as humans, given the necessity of human reproduction. Early descriptions of syphilis, gonorrhea, herpes simplex virus, and other STDs (and their associated clinical syndromes) have been found in both medical and nonmedical documents. On a global scale, STDs remain one of the most prevalent infectious diseases among the human race. Despite numerous technological advances in the past century, including the introduction of effective antimicrobial agents, STDs persist, and even thrive in varied locales.

There are numerous obstacles internationally to the successful control of STDs, including, in many instances, social, financial, and political underpinnings complicating control efforts. The health threats posed by many STDs also frequently extend to unborn fetuses and/or neonates, increasing their global importance. Because of the substantial prevalence of many of these clinical entities, as well as the significant toll on health and associated societal costs, clinicians caring for girls and women of all ages should have a thorough working knowledge of STD recognition, diagnosis, and management.

For the typical women's health provider, STDs and their associated morbidities represent a sizable portion of the daily efforts directed at improving and maintaining health, in addition to treating acute ailments. Also, many clinical efforts focus on STDs as a part of the larger goal of promoting disease prevention among women. In addition to the well-known STDs, the infectious vulvovaginitis syndromes are a major cause of discomfort, remain one of the main reasons women seek care and use antimicrobial agents, and are thus discussed thoroughly. Given significant overlap in clinical presentation, many noninfectious conditions of the female genital tract are also commonly seen by busy women's health providers and are occasionally misdiagnosed as STDs and/or infectious vulvovaginitis. This is also true for the relatively rare, but clinically apparent, vulvovaginal cancers. The awareness of these noninfectious clinical entities has increased in recent years, and burgeoning research has demonstrated the relatively high frequency of many of these conditions. Thus, special attention is given in this text to some of these more common entities.

Taken together, these conditions require a thorough understanding and disciplined approach to the evaluation and management in order to optimize women's health globally. Importantly, human immunodeficiency virus (HIV), while a sexually transmitted pathogen, is not discussed directly in this text, primarily because its scope and breadth warrants an entire text unto itself.

It is my sincere hope that this text provides a thorough yet user-friendly guide to the common STDs, vaginitides, and the gynecologic noninfectious syndromes that are frequently encountered in clinical practice. I also hope and believe that the combination of excellent contributors, along with the unique chapter selections, will serve as an invaluable resource for busy women's health providers across the world.

Richard H. Beigi, MD, MSc

1

Standard Clinical Evaluation

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Introduction

The clinical evaluation of women presenting with genital tract complaints requires a standard approach that leads to an objective, reproducible evaluation. This is a critical point to understand given the diverse conditions that are being evaluated. These diverse conditions, however, often have very closely overlapping clinical presentations, requiring the standard approach to maximize diagnostic accuracy and optimize outcomes. In general, the evaluation of women with lower genital tract complaints without physical examination and/or laboratory testing has been demonstrated to be suboptimal. Self-diagnosis has also been demonstrated to be inaccurate, and is generally discouraged. The syndromic management of women, based on subjective presentation alone, has been used in developing countries (and still is in certain settings) where a health infrastructure is lacking. However, thorough and careful history-taking, physical examination, and selected laboratory methods can significantly improve objectivity and, whenever possible, are strongly recommended in developed nations with an existent healthcare infrastructure. A recommended and reproducible approach to all women with lower genital tract complaints is described below.

Clinical evaluation

A thorough understanding of the vulvar, vaginal, and internal female genital tract anatomy is the key first step in assessingvulvovaginal complaints among women. As noted in Figure 1.1, the vulva is bound by the genitocrural folds laterally, the anus posteriorly, and the upper mons pubis superiorly. Importantly, hair follicles (coarse) are present on the inferior, lateral, and superior tissues of the vulva, but are lacking from the inner labia majora, labia minora, and the vaginal vestibule. The vaginal vestibule is separated from the inner labia minora by an artificial anatomic line, called the Hart line. This is an important landmark because it separates the nonmucous-secreting outer skin from the inner, mucous-secreting moist tissues of the vaginal vestibule and the hymenal ring. The vaginal vestibule is where the Bartholin and minor vestibular glands are located and produce lubricating fluids, where the vaginal orifice begins, and where the urethra opens at its meatus. Delineating and appreciating the exact anatomical location of physical findings is very important in deciphering the underlying etiology as well as administering effective treatment of sexually transmitted diseases (STDs) and the associated vulvovaginal syndromes/conditions.

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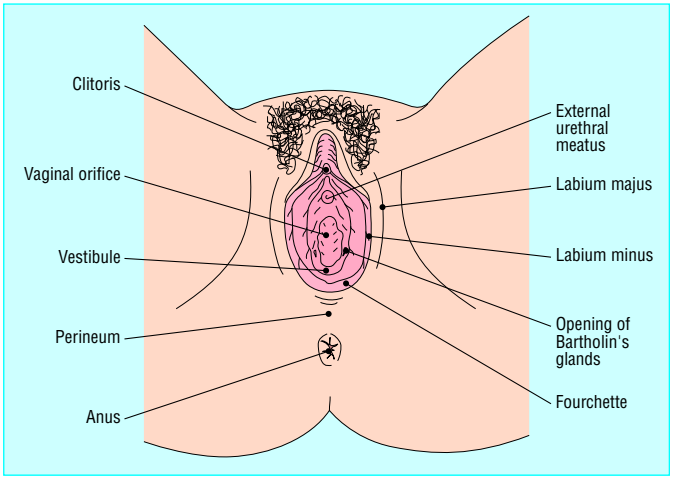

Figure 1.1. Female external genitalia. (Reproduced from Rogstad KE, et al., *ABC of Sexually Transmitted Infections,* 6th edn. Blackwell Publishing: Oxford, 2011, with permission.)

The standard position for most gynecological examinations is the dorsal lithotomy (on back, with knees flexed, thighs flexed and apart, feet resting in stirrups). This positioning (Figure 1.1) allows in most scenarios the best physiologic view of the female anatomy and optimizes specimen collection for most laboratory analyses. Occasionally, due to anatomic restrictions, lack of mobility, or other factors, different positioning may be necessary or undertaken. This may be especially true for young women or girls who have never had pelvic examinations performed or are reticent for such an examination (covered more extensively in Chapter 2).

It is likewise essential for practitioners caring for women to have a thorough understanding of the internal female genital tract anatomy (Figure 1.2). This cross-section demonstrates the relationship of the vagina, cervix, uterus, and adnexae to each other as well as the relationship to the two other important organ systems in the pelvis – the gastrointestinal tract (large bowel) and the urinary system (urethra and bladder). Distinguishing signs and/or symptoms attributable to the genital

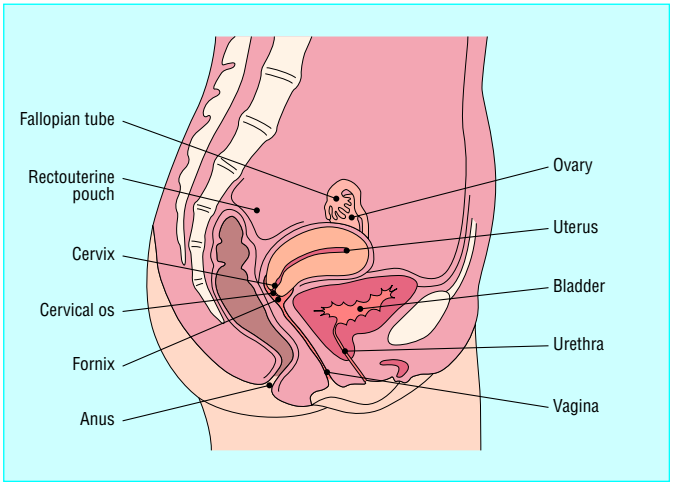

Figure 1.2. Female internal genitalia. (Reproduced from Rogstad KE, et al., *ABC of Sexually Transmitted Infections,* 6th edn. Blackwell Publishing: Oxford, 2011, with permission.)

tract versus the other adjacent organ systems is often challenging but occasionally very important to successful management.

With this basic understanding of the female anatomy, history-taking becomes the next key step (as in nearly all clinical evaluations). Focusing on specific symptomatology, exact timing of the onset of symptoms and length of time, alleviating and exacerbating factors, recent therapies (including self-chosen and nonprescription remedies) and presence/absence of partner(s) symptoms will help to narrow the differential diagnoses. The Centers for Disease Control and Prevention (CDC) has recommended an approach to sexual history-taking (5 Ps), which is covered more extensively in Chapter 17 (Prevention of Sexually Transmitted Diseases). This approach is strongly recommended to assist providers' ability to obtain key information in these evaluations that will lead to the correct diagnosis and management, thus improving clinical outcomes. Use of nonjudgmental, open-ended questions is suggested when eliciting a sexual history as this approach is more likely to produce meaningful and accurate information about sexual practices and risk factors.

After taking a thorough history and with a thorough understanding of the anatomy, all evaluations begin with an inspection of the vulvar area. Close attention to all elements of the external genital anatomy, the presence of any lesions, appearance and color of the skin, labia majora and minora, as well as any atypical findings is required. Obvious large lesions or other major findings should be noted and captured in a drawing for future reference. More subtle findings such as fissuring, labial agglutination, or small ulcers should also be sought, as they often give direct insight into the etiology of symptoms. Lymph nodes in the inguinal region should be routinely palpated for enlargement and/or tenderness (or rarely, fluctuance). For some of the vaginitides (i.e. vaginal candidiasis) and especially the noninfectious and/or dermatologic conditions, vulvovaginalinspection is often a high-yield component of the examination. After a thorough examination of the vulvar tissues (specific attention to color, tissue appearance, lesions, scaling, etc.), the vaginal introitus should be inspected for color changes, the presence of lesions, and vaginal tissue rugosity (as a sign of endogenous estrogen stimulation).

Subsequent to the thorough inspection of the external anatomy and vaginal introitus, anappropriately sized speculum should be placed into the vaginal vault, and the vaginal tissues and cervix inspected. Again, attention to tissue color, texture, presence of discharge, anatomic origin of the discharge (vaginal vs. cervical os), and other signs should be noted on every patient. Origin of discharge is a key point, as cervical discharge has a vastly different etiology, evaluation, and management compared to discharge emanating from the vaginal tissues. Evaluation of discharge microscopically is also a very important component of nearly all genital tract evaluations (when considering infectious conditions) and can often yield highly valuable information. The specifics of these techniques will be discussed in ensuing chapters. Close attention to the cervical appearance is also a key to this part of the examination. Once this is performed (and any appropriate specimens obtained for testing), the speculum is removed.

Internal bimanual pelvic examination is then carried out in the usual fashion using two fingers in the posterior vagina to palpate and move the cervix, while placing the other hand on the lower abdomen to simultaneously palpate the internal genital organs. This component of the examination is done with specific attention to the findings of pelvic tenderness on motion of the cervix (i.e. cervical motion tenderness) and any adnexal and/or uterine findings. This too is an important part of the examination that can often give vital information about upper genital tract infection that requires specific (often prolonged) therapy. Rectovaginal examination is also an often used method to help to discern further the nature of any findings on pelvic examination, as well as specific findings in the anorectal canal itself, and should be used liberally.

Conclusion

Use of this standard and reproducible approach on every patient will improve the ability of the provider to objectively determine the cause of the symptomatology. This in turn will improve the management and patient outcomes from these often physically and psychologically debilitating conditions.