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Male Genital Lesions

The Urological Perspective

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ISBN 978-3-642-29016-9 ISBN 978-3-642-29017-6 (eBook)
DOI 10.1007/978-3-642-29017-6
Springer Heidelberg New York Dordrecht London

Library of Congress Control Number: 2012943137

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Printed on acid-free paper

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*This book is dedicated to our patients, from whom we
have learnt and through whom we continue to develop.*

Preface

Skin diseases that involve the male genitalia are fairly common and can affect patients of all ages. Yet, diagnosis and treatment can be challenging and unsatisfactory, particularly when dealing with non-venereal conditions.

In developed countries, dermatologists and genitourinary physicians are the medical specialists that usually care for these disorders, but, elsewhere, male patients complaining of genital conditions initially consult with urologists.

However, due to a number of reasons, but mostly because of a paucity of reliable, comprehensive and easily accessible source of information, non-dermatology specialists tend to overlook the genital and systemic signs and symptoms presented by these patients, potentially exposing them to the clinical consequences of suboptimal management of their conditions.

Moreover, the lack of uniformity in the categorization of these disorders sum up to the difficulties that medical practitioners face when dealing with male patients with genital skin diseases.

Male Genital Diseases: The Urological Perspective has been conceived to fill this gap. The main goal of this book is to guide both beginners and experienced medical practitioners with an interest in the subject to obtain an accurate diagnosis of the several conditions that may affect the region. Written by urologists and a dermatologist with ample and solid experience in dealing with male genital dermatoses and supported by an extensive bibliography, the majority of dermatological, urological and systemic conditions that may affect the male genitalia are discussed in a comprehensive yet concise and objective approach.

The inclusion of more than 700 high-definition figures of genital lesions, which are not easily found elsewhere, is one of the book's main values. Every disease described in this book is represented by at least one corresponding figure. Moreover, the illustrations depict not only the typical presentation of the condition, but also less known representations that medical practitioners may encounter in daily practice. A number of figures detail clinical cases, and the differential diagnosis of diseases with similar clinical manifestations is also demonstrated by illustrations. All of this is complemented by innumerable original tables and explanatory notes highlighted inside the text.

The well structured and organized chapters categorize the genital lesions as non-infectious inflammatory, infectious (including sexually transmitted diseases), benign specialized, systemic disorders affecting the genital skin,

and premalignant and malignant (the latter written by Dr. Antonio Augusto Ornellas, a reputed expert in penile cancer). The embryology and functional anatomy of the male external genitalia is also reviewed, supported by a number of highly illustrative figures to facilitate comprehension. The clinical and laboratory diagnosis of genital dermatoses is fully discussed, including important topics related to the subject, such as dermatological and sexual history, systematic cutaneous examination with an emphasis on male genitalia, and a chapter dedicated to fundamentals in dermopathology, which was written by Prof. Filomena Marino Carvalho, an experienced pathologist.

Finally, the inclusion of *buttons* in the table of contents of several chapters is a helpful feature of the book, as they highlight distinct topics according to their condition (i.e., urologic emergency, systemic disease, sexually transmitted infection, etc.) is a helpful feature of the book. The aim is to provide an easy tool that will help the reader navigate through the chapters.

The authors hope that this book will serve as a valuable resource to guide medical practitioners to an accurate diagnosis and successful treatment of the innumerable diseases that may involve the male external genitalia.

São Paulo, 2012

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Acknowledgements

Male Genital Diseases: The Urological Perspective could not be written without the assistance and kindness of many people, and particularly our patients who, anonymously, accepted to be photographed and gave their consent to publish the innumerable figures that illustrate the chapters of this book. With this generous act, they make a huge contribution to the promotion of science.

Our greatest gratitude is also reserved to Prof. Filomena Marino Carvalho and Dr. Antonio Augusto Ornellas for their valuable collaboration to this book. In her chapter, Prof. Carvalho brilliantly reviews the fundamentals in dermatopathology, but wisely presents the information for a nonpathologist audience. Dr. Ornellas, with his solid experience in penile cancer, provides us with a key chapter on the subject, including the latest strategies to deal with local disease, lymph nodes, and penile reconstruction.

We express our gratitude to the following individuals, who kindly granted us permission to reproduce figures in our book: Agneta Andersson, editorial manager of *Acta Dermato-Venereologica*; Dr. Bolaji Mofikoya, Lagos University Teaching Hospital, Nigeria; Prof. Ignatius Kakande, editor in chief of the *East and Central African Journal of Surgery*; Verity Butler, permissions assistant from John Wiley & Sons Ltd; Professor and chairman Dr. Hiroshi Shimizu, Hokkaido University, Japan; Dr. Kowit Kampirapap, Institute of Dermatology, Bangkok, Thailand; Dr. Halit Talas, Ankara University, Turkey; Kit Tang from *Hong Kong Journal of Paediatrics*, China; Dr. Ilko Bakardzhiev, Medical University of Varna, Bulgaria; Alice Essenpreis, Rights and Permissions, Springer-Verlag Heidelberg; Prof. Dr A.F. Nikkels, University of Liège, Belgium; Dr. Jesús Ignacio Tornero Ruiíz, Hospital Universitario Virgen de la Arrixaca, Spain; Prof. Dr. Georgi Tchernev, University Hospital Lozenetz, Bulgaria; Prof. Khalid M AlGhamdi, King Saud University, Saudi Arabia; Dan Zika, associate editor/permissions coordinator, Medscape from WebMD; Prof. Dr. Mauro Romero Leal Passos, Fluminense Federal University, Brazil; Prof. Dr. Valeria Aoki, Dept. of Dermatology, University of São Paulo, Brazil; Prof. Dr. Paulo Cesar Rodrigues Palma, Dept. of Urology, University of Campinas, Brazil.

We also thank all the other publishers for their generous contribution for granting us copyright permissions for the use of valuable illustrations that highlight the various chapters of the book.

We are deeply grateful to all the staff at Springer-Verlag Heidelberg involved in the production of this book, in particular, Annette Hinze (editor, Clinical Medicine) who has always been a good friend and very supportive of

our work; Wilma McHugh (project coordinator), and Dörthe Mennecke-Bühler (assistant editor, Clinical Medicine) for their dedication and friendship, acquired during the previous projects with Springer.

Finally, we would like to thank G. Karthikeyan (project manager at SPi Global, India) and staff, for their excellent job with the production of this book.

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Part I

Fundamentals

Embryology and Functional Anatomy of the Male External Genitalia

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1.1 Introduction

Dermatoses of the male external genitalia may comprise either specific disorders of the genital region or local manifestations of systemic diseases. In addition, normal anatomical variations of the penis and scrotum are commonly observed, which may further confound the correct diagnosis of the innumerable conditions affecting the region. Therefore, understanding the basic notions of the male genital embryology and functional anatomy, as well as the correct sequence of history taking and physical examination are of utmost importance in order to better characterize the conditions involving this particular site. The embryology of the male external genitalia and its functional anatomy are discussed in this Chapter.

1.2 Embryology of the Male External Genitalia

Fetal sex development involves a series of sequential stages (Fig. 1.1), and both differentiation and formation of internal and external genitalia are late-developmental steps in human ontogeny which are regulated by the action of testicular hormones (Wilson et al. 1981; Renfree et al. 2002). The formation of the male and female sexual phenotype is initiated at the sixth week of gestation. At this time, a small rudimentary bud called the genital tubercle initially appears, and differentiation between the two sexes only begins at the ninth week (Figs. 1.2,

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Fig. 1.1 External genitalia differentiation/formation is a late developmental step during human ontogeny (Source: Klonisch et al. (2004). Reproduced with permission from Elsevier)

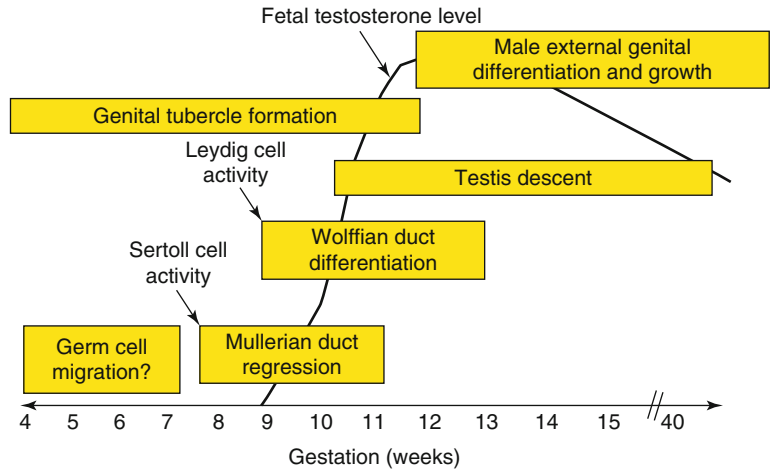


Fig. 1.2 Male genitalia at 15 weeks: the genital tubercle is pointing cranially (arrow) (Source: Odeh et al. (2009). Reproduced with permission from Lippincott Williams & Wilkins)

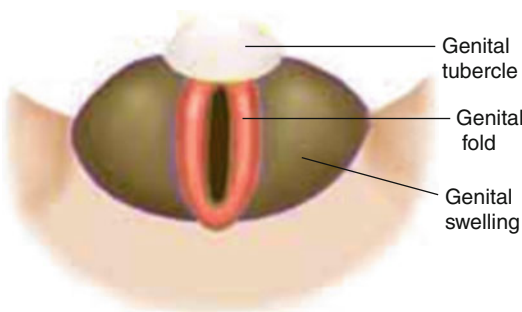


Fig. 1.3 Fetal sex development – undifferentiated structures at 7 weeks of gestation

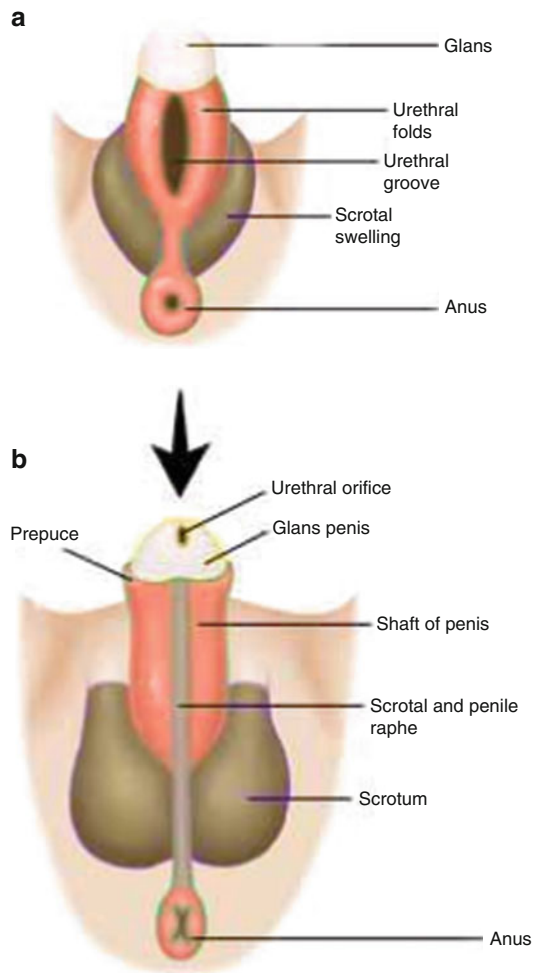


Fig. 1.4 Fetal sex development – male external genital structures at 7–8 weeks (a) and 12 weeks of gestation (b)