

HOSPITAL PHYSICIAN®

ONCOLOGY BOARD REVIEW MANUAL

STATEMENT OF EDITORIAL PURPOSE

The *Hospital Physician Oncology Board Review Manual* is a study guide for fellows and practicing physicians preparing for board examinations in oncology. Each manual reviews a topic essential to the current practice of oncology.

PUBLISHING STAFF

PRESIDENT, GROUP PUBLISHER

Bruce M. White

EDITORIAL DIRECTOR

Debra Dreger

SENIOR EDITOR

Bobbie Lewis

ASSOCIATE EDITOR

Rita E. Gould

EDITORIAL ASSISTANT

Farrowh Charles

EXECUTIVE VICE PRESIDENT

Barbara T. White

EXECUTIVE DIRECTOR

OF OPERATIONS

Jean M. Gaul

PRODUCTION DIRECTOR

Suzanne S. Banish

PRODUCTION ASSOCIATE

Kathryn K. Johnson

ADVERTISING/PROJECT DIRECTOR

Patricia Payne Castle

SALES & MARKETING MANAGER

Deborah D. Chavis

NOTE FROM THE PUBLISHER:

This publication has been developed without involvement of or review by the American Board of Internal Medicine.



Endorsed by the
Association for Hospital
Medical Education

Epithelial Ovarian Cancer

Series Editor:

Arthur T. Skarin, MD, FACP, FCCP

Associate Professor of Medicine, Harvard Medical School; Medical Director, Thoracic Oncology Program, Department of Adult Oncology, Dana-Farber Cancer Institute and Brigham and Women's Hospital, Boston, MA

Contributor:

Joyce Fu Liu, MD

Fellow, Department of Adult Oncology, Dana-Farber Cancer Institute and Brigham and Women's Hospital, Boston, MA

Table of Contents

Introduction	2
Clinical Evaluation	2
Management	4
References	10

Cover Illustration by Kathryn K. Johnson

Copyright 2007, Turner White Communications, Inc., Strafford Avenue, Suite 220, Wayne, PA 19087-3391, www.turner-white.com. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of Turner White Communications. The preparation and distribution of this publication are supported by sponsorship subject to written agreements that stipulate and ensure the editorial independence of Turner White Communications. Turner White Communications retains full control over the design and production of all published materials, including selection of topics and preparation of editorial content. The authors are solely responsible for substantive content. Statements expressed reflect the views of the authors and not necessarily the opinions or policies of Turner White Communications. Turner White Communications accepts no responsibility for statements made by authors and will not be liable for any errors of omission or inaccuracies. Information contained within this publication should not be used as a substitute for clinical judgment.

Epithelial Ovarian Cancer

Joyce Fu Liu, MD

INTRODUCTION

Ovarian cancer remains the leading cause of death among women with gynecologic malignancies and the fifth leading cause of cancer mortality in US women. According to the American Cancer Society, there will be an estimated 22,430 new cases of ovarian cancer in 2007, with approximately 15,280 deaths.¹ This case-based review will discuss the clinical evaluation and management of patients with epithelial ovarian cancer, which comprises the majority of ovarian cancer cases.

ETIOLOGY AND RISK FACTORS

Epithelial ovarian cancer is thought to derive from malignant transformation of the ovarian surface,² although the exact cell of origin is unknown. Nulliparity appears to increase the risk for developing ovarian cancer,³⁻⁵ presumably due to increased trauma and repair to the ovarian epithelium caused by uninterrupted cycles of ovulation. In contrast, oral contraceptive use,^{6,7} an increased number of pregnancies,⁸ and breastfeeding^{3,9} have all been shown to reduce ovarian cancer risk. Tubal ligation has also been correlated with a reduced risk of ovarian cancer, although the exact mechanism is unknown.¹⁰ Anecdotal reports have suggested a link between infertility treatment and ovarian cancer, but subsequent studies have not confirmed this correlation.^{11,12}

The most important risk factor for developing ovarian cancer is family history of the disease. Women with 1 affected relative have an estimated lifetime risk of 5% for developing ovarian cancer, and women with 2 affected relatives have an estimated risk of 7%,¹³ whereas the estimated risk for the US general population is 1.4% to 1.8%.^{14,15} In women who have at least 2 first-degree relatives diagnosed with hereditary epithelial ovarian cancer, the lifetime risk for developing ovarian cancer ranges from 25% to 50%.^{13,16} Overall, hereditary ovarian cancer syndromes may account for approximately 10% to 15% of all cases.^{16,17} Several mutations are associated with familial ovarian cancer and account for most cases. The best characterized involves germline mutation in the *BRCA* genes. Women carrying a *BRCA1* germline mutation have an estimated lifetime risk of ovarian cancer

between 16% and 62%,¹⁸⁻²⁰ whereas the lifetime risk for women with a *BRCA2* germline mutation is between 10% and 20%.^{2,18-20} Some studies have suggested that ovarian cancers occurring in *BRCA* carriers have a better prognosis, although stage and tumor histopathology appear to be similar to that of the general population.²²⁻²⁴ Additionally, mutations in the DNA mismatch repair genes *MSH2* and *MLH1* are associated with Lynch syndrome II. Carriers of these germline mutations are most likely to develop colorectal cancer or endometrial cancer but also have an elevated risk of ovarian cancer, with a lifetime risk estimated to be 9%.²⁴

CLINICAL EVALUATION

CASE PRESENTATION

A 53-year-old woman with no significant family or past medical history presents to the emergency department with significant epigastric and abdominal pain. The patient presented to her primary care physician 1 month prior with a 2-day history of lower abdominal discomfort. Physical examination was unremarkable, and she was treated for a presumed urinary tract infection. Subsequently, the patient developed significant epigastric as well as worsening lower abdominal pain. The current physical examination is unrevealing, and standard laboratory studies are normal. Computed tomography (CT) of the abdomen reveals an ill-defined soft tissue density replacing much of the omentum.

- What are the symptoms and signs of epithelial ovarian cancer?

CLINICAL FEATURES

The median age of patients at diagnosis is 60 years,² although women with a hereditary cause of ovarian cancer usually develop disease earlier.²⁶ Symptoms associated with ovarian cancer include abdominal discomfort, bloating, constipation, indigestion, and fatigue.^{27,28} A retrospective survey suggests that these symptoms may occur in up to 95% of patients prior to diagnosis,²⁸ but early diagnosis remains difficult due