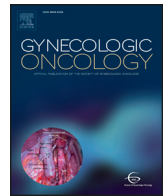




Contents lists available at ScienceDirect

## Gynecologic Oncology

journal homepage: [www.elsevier.com/locate/ygyno](http://www.elsevier.com/locate/ygyno)

## Historical Perspective

## The Wertheim hysterectomy: Development, modifications, and impact in the present day

Alexa L Swailes<sup>a,\*</sup>, Allison Gockley<sup>b</sup>, Rébecca Phaëton<sup>c</sup>, Joshua P. Kesterson<sup>c</sup><sup>a</sup> Pennsylvania State University College of Medicine, Hershey, PA, United States<sup>b</sup> Brigham and Women's Hospital, Boston, MA, United States<sup>c</sup> Penn State Milton S. Hershey Medical Center, Hershey, PA, United States

## HIGHLIGHTS

- Wertheim's radical abdominal hysterectomy technique is outlined.
- Major modifications to the Wertheim hysterectomy are discussed.
- Modern modifications focused on quality of life are examined.

## ARTICLE INFO

## Article history:

Received 21 November 2016

Received in revised form 5 January 2017

Accepted 5 January 2017

Available online xxxx

## Keywords:

Wertheim hysterectomy

Radical abdominal hysterectomy

Cervical cancer

## ABSTRACT

Ernst Wertheim was a pioneer in the history of the surgical treatment of cervical cancer. His English-language manuscript "The extended abdominal operation for carcinoma uteri (based on 500 operative cases)," which was published in 1912, detailed his standardization of the radical hysterectomy and formed the basis of the current treatment for early stage cervical cancer. We contextualize the Wertheim hysterectomy, emphasizing medical advances that allowed for its development and subsequent modification. We then discuss modifications to the originally proposed procedure, including a maximally extended parametrial resection pioneered by Takayama, and the addition of the Taussig en bloc lymph node dissection by Meigs, both of which afforded an improved mortality profile due to decreased disease recurrence. Finally, we discuss progress that has been made in the present day, such as the development of nerve-sparing and fertility-sparing surgeries, as well as the introduction of the robotic platform. In this way, we hope to provide a historical background for the Wertheim hysterectomy—a cornerstone of gynecologic oncology.

© 2017 Elsevier Inc. All rights reserved.

## 1. Introduction

In 1912, the Austrian surgeon Ernst Wertheim published a landmark English-language manuscript in the American Journal of Obstetrics and Diseases of Women and Children, in which he detailed 500 cases of what he termed "extended abdominal operation for carcinoma uteri," now widely known to the gynecologic community as the radical abdominal hysterectomy (Fig. 1) [1,2]. Since that time, remarkable progress has been made in the surgical treatment of cervical cancer—a disease considered foolish to attempt to cure as recently as one century

ago. Yet, as our understanding of disease processes and surgical techniques expands, it is befitting to consider the context in which our modern advances have arisen.

In standardizing the radical abdominal hysterectomy, Wertheim took the first necessary step toward the development of a safe and feasible operation for the treatment of locally invasive cervical cancer—an undertaking equally rooted in surgical technique and management of operative morbidities. As the century progressed, availability of antibiotics and blood transfusion triggered sharp declines in perioperative morbidity and mortality, and Wertheim's operation became increasingly commonplace, permitting its modification in pursuit of greater survival benefit. As survival rates improved, focus gradually shifted toward improving post-surgical quality of life. In the following discourse, we attempt to contextualize the pioneering work of Ernst

\* Corresponding author at: 500 University Dr., Cancer Institute, T1400, Hershey, PA 17033-0850, United States.

E-mail address: [aswailes@pennstatehealth.psu.edu](mailto:aswailes@pennstatehealth.psu.edu) (A.L. Swailes).

**THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.**

VOL. LXVI.                      AUGUST, 1912.                      NO. 2

**ORIGINAL COMMUNICATIONS.**

**THE EXTENDED ABDOMINAL OPERATION FOR CARCINOMA UTERI.**

(BASED ON 500 OPERATIVE CASES.)

BY  
PROF. DR. E. WERTHEIM,  
Vienna.

(With Six Illustrations.)

Translated by  
HERMANN GRAD, M. D.,\*  
New York.

**A. THE DEVELOPMENT OF THE TECHNIC OF THE OPERATION.**

From the beginning it has been clear that in order to obtain good results in the extended *abdominal operation for uterine cancer* the development of the technic was of great importance. Careful asepsis, rapid completion of the operation, a minimum loss of blood, careful handling of the organs to be liberated and the consideration of the heart in reference to the narcosis; all these points are of great moment in an individual already reduced in strength by the disease. We are, therefore, not in accord with Rosthorn,† who wishes to set aside the technical details with the remark that this operation should be carried out according to the idea of the individual operator. That other operators

\*The remarkable results obtained by Professor Wertheim in his radical operation for cancer of the uterus have aroused great interest in his technic. For the benefit of his English-speaking admirers a translation of his recent work is here presented, its publication being authorized by Professor Wertheim. It is regretted that lack of space prevents the publication of the 500 detailed case reports upon which the Monograph is based.

†*Zentralbl. f. Gyn.*, 1901, No. 11.

Digitized by Google

Original from  
UNIVERSITY OF ILLINOIS AT  
URBANA-CHAMPAIGN

Fig. 1. Cover page of Wertheim's 1912 manuscript.

Wertheim and delineate the intricate history of the radical abdominal hysterectomy, highlighting along the way the major advances in the operations now routinely performed in operating suites worldwide.

## 2. Development of the Wertheim hysterectomy

The development of successful surgical treatment for cervical cancer faced distinct challenges—namely perioperative infection and blood loss—in an era before the availability of antibiotics and blood transfusion. In an effort to address the need for surgical treatment for patients with gynecologic malignancies, abdominal hysterectomies had been attempted, though with poor success. Perioperative mortality rates averaged 75–80%, leading experts to recommend the procedure only for patients in dire clinical situations [3]. In 1878, Wilhelm Alexander Freund proposed a standardized technique for total abdominal hysterectomy, taking the first steps toward the development for safe, feasible operations for gynecologic malignancy [4]. Despite still-significant surgical mortality and the realization soon thereafter that the total

abdominal hysterectomy provided no significant survival benefit to patients with invasive cervical cancer, Freund's standardization of this procedure undeniably laid the groundwork for development of the radical hysterectomy.

Extrapolating William Halsted's 1889 proposal that en bloc resection of uninvolved tumor-surrounding tissues could prevent breast cancer recurrence, John Clark and Emil Ries, gynecology residents at Johns Hopkins University, proposed the resection of not only the cervix, but the uterine corpus, fallopian tubes, and a portion of the parametrium, and in so doing, undertook the first attempt at radical hysterectomy for cervical cancer in 1895 [4]. As the idea of radical hysterectomy took root in Europe and America, a famous rivalry regarding the optimal surgical approach to the radical hysterectomy developed between Friedrich Schauta and his protégé Ernst Wertheim at the Universitäts Frauenklinik in Vienna, Austria [5]. This rivalry culminated in Wertheim ultimately leaving his mentorship under Schauta for the Elizabeth Hospital in 1898. Wertheim went on to refine his technique, publishing a report of his first radical abdominal hysterectomy later that year, and in so

Download English Version:

<https://daneshyari.com/en/article/5695451>

Download Persian Version:

<https://daneshyari.com/article/5695451>

[Daneshyari.com](https://daneshyari.com)