

## Wertheim-Meigs radical hysterectomy

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Wertheim-Meigs hysterectomy is the treatment of choice for invasive cervix cancer stage IB and IIA at the University of São Paulo Medical School. It was performed in 168 patients between 1974 and 1993. Pelvic lymph node metastases were found in 19 patients (11.3%) and 149 were negative lymph node.

The recurrence rate was 21% in the positive lymph node and 6% in the negative lymph node patients. Complications occurred in 35 patients (20.83%) and were as follows: atonic bladder in 9.52%; fistulae in 5.59%; urinary incontinence in 4.76%; ureteral stenosis in 2.97%; dehiscence in 2.38% and lymphedema in 1.19%. Intraoperative complications occurred at a rate of 4.76% and involved injuries to the bladder, ureter and great vessels.

**UNITERMS:** Radical hysterectomy, hysterectomy, carcinoma of the cervix, cervical neoplasm, Wertheim-Meigs surgery.

**T**he Wertheim radical hysterectomy consists of a total removal of the uterus, including the parametrium, the bilateral uterosacrum ligaments and adjacent connective tissue. When performed with the dissection and resection of the lymph node chains from the primitive iliac vessels, and the external and internal iliac vessels, this procedure is named Wertheim-Meigs surgery. It constitutes the indicated treatment of choice for the invasive carcinoma of the cervix Stage IB and initial IIA (FIGO) and for the primary cervical adenocarcinoma.

The morbidity associated with the Wertheim-Meigs operation is substantial: services which have high qualified surgeons report a great number of intraoperative and postoperative problem complications associated to this procedure. The most important complications are ureteral, ureterovaginal and vesicovaginal fistulae, appearing during the immediate postoperative convalescence period or later mainly in patients who received subsequent radio-

therapy. Other complications are described: intraoperative hemorrhage due to pelvic large vessel lesion, ureter or bladder accidental section, abdominal wall dehiscence, ureteral obstruction causing hydronephrosis and renal exclusion, disorders as urinary incontinence, polaciurya, vesical atony, often accompanied by urinary tract infection and hematuria.

The purpose of this paper is to evaluate the morbidity of the Wertheim-Meigs surgery in patients treated at the Gynecology Department of the University of São Paulo Medical School General Hospital (HC-FMUSP).

### MATERIALS AND METHODS

Wertheim-Meigs radical hysterectomy was performed on 168 women at the Gynecology Department of the University of São Paulo Medical School General Hospital (HC-FMUSP) between 1974 and 1993. These cases were studied retrospectively. From the patients included in this study, 94 underwent hysterectomy as exclusive treatment and 74 associated with radiotherapy.

As initial diagnosis, 147 women presented epidermoid cervix carcinoma (124 stage IB, 14 Stage IIA, 8 Stage IIB and 1 Stage IIIB irradiated), 15 patients had

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adenocarcinoma limited to the cervix and 6 endometrium adenocarcinoma.

During the follow-up period, 21 patients were lost, and the others (88%) were accompanied during periods ranging from 1 to 20 years (average = 6 years).

Preoperative radiotherapy was performed on 26 women, and 48 received this treatment after the hysterectomy. The main indications of preoperative radiotherapy were: exophytic tumor, large tumor and adenocarcinoma. Postoperative radiotherapy treatment was performed on the patients with the following characteristics presence of lymph nodes with neoplasms, lymph vascular space invasion, small or not free surgical margins, adenocarcinoma, tumor during the pregnancy - puerperium cycle and local recurrence.

## RESULTS

Table 1 shows the relationship between the presence of neoplastic positive pelvic lymph nodes and the recurrence of the disease. Positive lymph nodes were found in 19 patients, out of which 4 presented recurrence after a period ranging from 1 to 3 years. Among the 149 patients with negative lymph nodes, 9 (6.0%) presented recurrence between 1 and 7 years after the surgery.

The recurrence rate was 3.5 times higher among the patients with positive lymph nodes.

Important intraoperative and late complications occurred in 35 patients (20.83%). The main complications observed are shown in Table 2. Some patients presented more than one complications.

The main postoperative or late complication of the Wertheim-Meigs surgery was the urinary tract infection, detected in 16 (9.52%) of the patients, who were almost symptom-free. This fact demonstrates the importance of the systematic urinary analysis during the follow-up period, even when the symptomatology is not present.

Fistulae occurred in 10 (5.95%) women, being the

Table 1

### Relationship between lymph node status and tumor recurrence

Lymph nodes Status	Nº of patients	Nº of recurrence	% of recurrence
Positive	19	4	21.0
Negative	149	9	6.0
Total	168	13	7.7

Table 2

### Complications of Wertheim-Meigs hysterectomy at the Gynecology Clinic (HCFMUSP 1974-1993)

Type of complications	Nº of patients	%
Low urinary tract infection	16	9.52%
Fistulae	10	5.95%
Ureteral	7	
Rectal	1	
Vesical	2	
Intraoperative lesions in adjacent organs	8	4.76%
Bladder	1	
Ureters	4	
Pelvic vessels	3	
Urinary incontinence	8	4.76%
Ureteral stenosis	5	2.97%
Surgical wound dehiscence	4	2.38%
Inferior extremities lymphedema	2	1.19%

ureterovaginal fistulae the most common (7 cases). The majority of these patient needed to undergo surgical correction.

Eight patients (4.76%), who were previously continent presented substantial urinary incontinence after the Wertheim-Meigs surgery.

The ureteral stenosis, diagnosed through venous pyelogram, was found in 5 cases (2.97%). All the patients presented stenosis of the left ureter, which an anatomic factor or a consequence of the suggests surgical technique employed.

Four cases (2.38%) with surgical wound dehiscence, demanded the surgical correction. Two women presented inferior extremities lymphedema (1.19%) with significant functional consequences. Table 3 compares the data of the present study with the data of other four authors.

## DISCUSSION

The Wertheim-Meigs radical hysterectomy is performed still presently in the majority of the services as the treatment of choice for the Stage IB and IA carcinoma of the cervix. However, this procedure tends to be less indicated in the same proportion of the decrease of the invasive cervical carcinoma prevalence due to control programs which are detecting and treating the initial phases

**Table 3**  
**Morbidity associated with the Wertheim-Meigs surgery according to different authors**

	For-gach et al. <sup>(2)</sup>	Luka-novic et al. <sup>(4)</sup>	Basso Ricci et al. <sup>(1)</sup>	Lansac et al. <sup>(3)</sup>	HC-FMUSP
Number of cases	212	29	361	199	168
Urinary tract infection					9.52%
Vesical fistula					1.19%
Ureteral fistula	1.9%	2.5%	9.7%		4.16%
Rectal fistula	0.4%				0.59%
Ureter lesion	0.4%				2.38%
Vessels lesion	0.4%				1.78%
Bladder lesion					0.59%
Miction problems	23.1%		7.2%		4.76%
Ureteral stenosis					2.97%
Dehiscence					2.38%
Lymphedema			1.6%		1.19%
Lymphocele				7.5%	
Thrombo-embolism				3.0%	
Death	0.9%				

of this disease.

However, it constitutes a surgery which demands a profound knowledge of the pelvis, surgical ability and training, since the intraoperative and postoperative complications verified in almost all the casuistics are substantial and serious.

The most frequent complication after the Wertheim-Meigs surgery is the change of the urinary function, probably as the result of the vesical denervation after the surgical dissection. During the immediate postoperative period, it is common to observe urinary retention above

100 ml and troubled miction. These functional changes create favorable conditions to the development of incontinence and urinary tract infection, which are almost always symptom-free.

The most serious complications are the ureteral fistulae, which appeared with a frequency ranging from 2 to 10% according to different reports, and may cause tragic consequences as the loss of the renal function.

In this study the fistulae occurred in 5.95% of the cases, being the ureteral one the most frequent, demanding closer care and the need of surgical correction. Another complication verified in 2.38% of the patients was the ureteral stenosis, diagnosed during postoperative follow-up. The stenosis might be consequence of inadequate pexia at or near the ureter or resulted from the scar process. It is interesting to note that all the stenosis happened on the left ureter, which suggests the influence of anatomic factors or the consequence of the surgical technique employed.

Finally, it is necessary to emphasize that the Wertheim-Meigs surgery must be performed only by trained surgeons and in centers with technical conditions and staff able to diagnose and treat the potential complications.

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## RESUMO

A histerectomia radical de Wertheim-Meigs foi o tratamento de escolha para o carcinoma invasivo do colo do útero estadio clínico Ib e Iia no Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo no período de 1974 a 1993, quando 166 pacientes foram submetidas a esta forma de tratamento. Metástase linfonodal estava presente em 19 pacientes (11,3%). A taxa de recidiva foi de 21% nas pacientes com linfonodos positivo e 6% nas linfonodo negativas. Complicações ocorreram em 35 pacientes (20,83%) e foram as seguintes: atonia vesical 9,52%; fistulas 5,95%; incontinência urinária 4,76%; estenose reteral 2,97%; deiscência 2,38% e linfedema de membros inferiores 1,19%. Complicações intra-operatórias ocorreram em 4,76% e envolveram lesões em bexiga, ureter e grandes vasos.