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# Adjuvant Chemotherapy and Survival After Pelvic Exenteration for Gynecologic Cancers in the COREPEX Study

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## Introduction

Prognostic factors affecting survival in patients undergoing pelvic exenteration for gynecologic cancers have been reported by the Complications and Recurrence After Pelvic Exenteration (COREPEX) study.[1] Previous studies identified a negative association of nodal metastasis with survival of patients undergoing pelvic exenteration[1-3] but not improved survival with postoperative adjuvant chemotherapy. We investigated whether adjuvant chemotherapy was associated with overall (OS), disease-free (DFS), and cancer-specific (CSS) survival in patients undergoing pelvic exenteration with pelvic lymph node metastasis.

## Methods

This comparative effectiveness research study was a secondary analysis of the international, multicenter, retrospective COREPEX study.[1,4] Inclusion criteria were cervical, vaginal, vulvar, or endometrial cancer; anterior or total pelvic exenteration performed between January 1, 2005, and March 31, 2023; curative or palliative intent; with or without laterally extended endopelvic and pelvic resection; and histologically metastatic pelvic lymph nodes. Patients with posterior pelvic exenteration only or no preoperative computed tomography, positron emission tomography–computed tomography, or positron emission tomography were excluded. Patients were stratified according to the administration of adjuvant chemotherapy. Further methodologic details are reported in the eMethods in Supplement 1. The study followed the ISPOR reporting guideline.

Data were analyzed from October 1 to 31, 2025, with SPSS, version 29.0 (SPSS Inc) and R, version 4.1.2 (R Project for Statistical Computing) using the survival and survminer packages. Two-sided $P < .05$ indicated statistical significance.

## Results

Data from 121 patients were retrieved. The median age was 51 (range, 29-77) years. Eighty-eight patients (72.7%) were diagnosed with cervical cancer, 67 (55.4%) had surgery at the time of recurrence, 61 (50.4%) had total pelvic exenteration, 65 (53.7%) had positive lymphovascular space involvement, and 90 (74.4%) had negative margins. Forty-nine patients (40.5%) received adjuvant chemotherapy (median, 6 [range, 1-15] cycles); 72 (59.5%) did not. No difference in baseline characteristics was reported between groups. The most frequent chemotherapy regimen was carboplatin and paclitaxel in 14 patients (28.6%); platinum-based chemotherapy was used in 35 (71.4%).

+ Supplemental content

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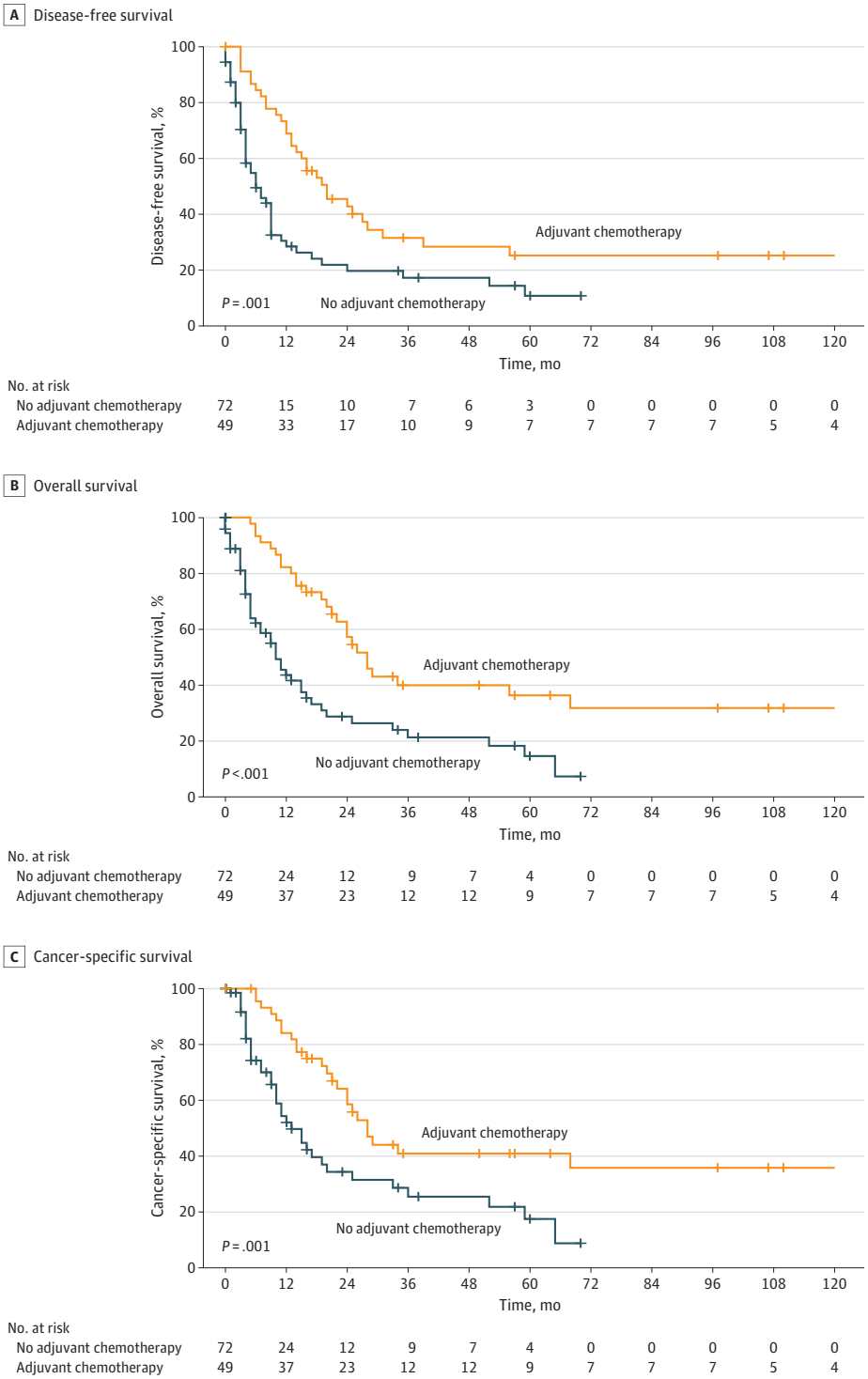
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The median follow-up time was 57.0 (95% CI, 37.2-76.8) months. Patients undergoing adjuvant chemotherapy had significantly better median DFS (20 [95% CI, 10.7-29.3] vs 7 [95% CI, 3.5-10.5] months; *P* = .001) (**Figure**, A), OS (28 [95% CI, 22.4-33.5] vs 10 [95% CI, 6.6-13.4] months; *P* < .001) (Figure, B), and CSS (28 [95% CI, 22.6-33.4] vs 13 [95% CI. 8.0-18.0] months; *P* = .001) (Figure, C). This was confirmed in the subgroup of patients with cancer of cervical origin (median DFS, 20 [95%

**Figure. Kaplan-Meier Plots Showing Survival Among Patients Receiving vs Not Receiving Adjuvant Chemotherapy**






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Table. Multivariable Analysis for Risk of Recurrence and Death

| | DFS | | OS | |
|---|---|---|---|---|
| Covariate | HR (95% CI) | *P* value | HR (95% CI) | *P* value |
| LVSI (negative vs positive) | 1.00 (0.62-1.62) | .99 | 1.30 (0.78-2.17) | .31 |
| Margins (negative vs positive) | 1.01 (0.63-1.90) | .74 | 1.01 (0.57-1.77) | .97 |
| Pelvic exenteration type (anterior vs total) | 1.32 (0.80-2.19) | .28 | 1.59 (0.92-2.74) | .09 |
| Timing of pelvic exenteration (others vs persistence) | 2.03 (1.19-3.45) | .01 | 2.33 (1.34-4.06) | .003 |
| PAN (negative vs positive) | 1.63 (0.93-2.86) | .09 | 1.24 (0.68-2.27) | .49 |
| Adjuvant chemotherapy (no vs yes) | 0.44 (0.27-0.71) | <.001 | 0.39 (0.23-0.66) | <.001 |
| 30-d Grade 3-5 postoperative complications (no vs yes) | 1.15 (0.71-1.89) | .56 | 1.03 (0.61-1.72) | .92 |

Abbreviations: DFS, disease-free survival; HR, hazard ratio; OS, overall survival; LVSI, lymphovascular space involvement; PAN, para-aortic node.

CI, 8.9-31.1] vs 5 [95% CI, 2.7-7.2] months [*P* < .001]; median OS, 28 [95% CI, 21.9-34.0] vs 9 [95% CI, 8.5-23.5] months [*P* = .002]).

Multivariable analysis showed that the use of adjuvant chemotherapy was the only factor independently associated with improved DFS (hazard ratio [HR], 0.44 [95% CI, 0.27-0.71]) and OS (HR, 0.39 [95% CI, 0.23-0.66]), while performing pelvic exenteration at time of persistent disease was the only independent factor associated with impaired DFS (HR, 2.03 [95% CI, 1.19-3.45]) and OS (HR, 2.33 [95% CI, 1.34-4.06]) (**Table**). When adjuvant chemotherapy was combined in a model with the COREPEX score[1] for DFS and OS, it showed an independent protective association with risk of recurrence (HR, 0.48 [95% CI, 0.30-0.78]; *P* = .003) and death (HR, 0.45 [95% CI, 0.27-0.73]; *P* = .001). No difference in para-aortic and/or distant recurrences (median time to recurrence, 6 [95% CI, 3.8-8.2] months) was observed between study groups (21 of 72 [29.2%] vs 15 of 49 [30.6%]; *P* = .94).

## Discussion

The use of chemotherapy after pelvic exenteration for gynecologic cancer has been explored by 2 previous studies.[5,6] Andikyan et al[5] analyzed 42 patients, of whom 11 (26.2%) were referred for chemotherapy and 8 (19.0%) received it (7 completed the full schedule). The study concluded that adjuvant chemotherapy could be considered feasible in the adjuvant setting after pelvic exenteration. In a study of 19 patients undergoing adjuvant chemotherapy after pelvic exenteration for gynecologic cancers,[6] the authors did not find a survival improvement with adjuvant chemotherapy. However, the subgroup analyses did not select patients at highest risk of distant metastasis. In our study, we included only patients with metastatic pelvic nodes, postulating that they were at highest risk of disease dissemination and highlighting the importance of lymph node assessment at time of pelvic exenteration.

The limitations of this comparative effectiveness research study include its retrospective nature, heterogeneity in chemotherapy regimens, lack of use of immunotherapy (which was not yet approved in Europe during the study period), no information on toxicity, and the number of patients who were not fit for chemotherapy due to poor postoperative condition. We showed that administration of adjuvant chemotherapy was associated with improved survival in patients undergoing pelvic exenteration for gynecologic cancers with metastatic pelvic lymph nodes and an independent protective factor toward risk of recurrence and death.

ARTICLE INFORMATION

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**Author Contributions:** Dr Bizzarri had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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*Acquisition, analysis, or interpretation of data:* Bizzarri, Novák, Ricotta, Cãpîlna, Giannarelli, Domingo, Chiantera, Akıllı, Cibula, Zach, Miranda, Korompelis, Chacon, Zapardiel, Lampe, Svintsitskyi, van Ramshorst, Taskiran, Demirkıran, Lengyel, Loverro, Ferron, Martinez, Gauroy, Ladanyi, Szilard Kiss, Lago, Montesinos-Albert, Di Donna, Cucinella, Slama, Rosta, Zelal Muallem, Fagotti, Salehi, Querleu.

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**Data Sharing Statement:** See Supplement 2.

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## SUPPLEMENT 1.

**eMethods.** Ethics Approval, Outcome Measures, Data Collection, and Statistical Analysis

## SUPPLEMENT 2.

**Data Sharing Statement**



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