

Clinical Outcome and Prognostic Factors in Borderline Ovarian Tumors and Invasive Ovarian Carcinomas in Western Sweden

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Abstract

Ovarian cancer, the most lethal of gynecological malignancies in Sweden, is first diagnosed in advanced stages in two thirds of the cases. Although the incidence is decreasing, mortality remains high.

Clinical guidelines were introduced in western Sweden in 1993 to describe best clinical care in order to improve survival. In a prospectively collected, data-based quality register at the Regional Oncological Centre, all cases of borderline ovarian tumors (BOT) and epithelial ovarian cancer (EOC) from 1993 to 2005 were recorded. Data concerning age, stage, grade, histopathology, residual disease, ploidy status, CA-125, follow-up, recurrence, and death were collected. In 1998, the guidelines were revised to include a new chemotherapy combination for women with advanced EOC.

During the first period, 1993 to 1998, the 5- and 10-year relative survival (RS) rates for the total population of EOC (N=682) were 46.2% (95% CI 42.1-50.3) and 38.4% (95% CI 34.1-42.8) respectively. The median age was 63 years.

During the second period, 1998 to 2005, the 5- and 8-year RS rates were 48.8% (95% CI 45.2-52.4) and 39.7% (95% CI 34.9-44.5) for all (N=853) patients. An improvement in survival was indicated for early stage disease (I-IIA) treated with carboplatin after surgery, with the 5-year RS rates of 81.9% (95% CI 73.5-88.6) in Period 1 rising to 87.1% (95% CI 80.1-92.6) in Period 2.

Most interesting was the comparison of the two cohorts of advanced disease (stages IIB-IV), since the adjuvant chemotherapy combination was changed. The therapy of carboplatin+cyclophosphamide+epirubicin used during the first period showed a 5-year RS rate of 34.3% (95% CI 29.5-39.3); during the second period, paclitaxel+carboplatin treatment yielded a 5-year RS rate of 33.3% (95% CI 28.8-38.0). Progression-free survival (PFS) rates were also similar in women with stage IIB-IV tumors: 19 months (95% CI 17-22) versus 18 months (95% CI 17-20) for Periods 1 and 2. Only a randomized study, preferably including toxicity and quality of life aspects, may clarify which of these treatments confers the greater benefit.

Prognostic factors for survival were analyzed by multivariate Cox regression analysis. Age, stage, residual disease after surgery, and postoperative CA-125 were identified as prognostic markers in both study populations.

Of patients with BOT (N=399), the 5- and 10-year RS rates were equal to 100%, with a total combined recurrence and death rate of 2%. Only two women having conservative surgery had a recurrence. Patients with aneuploid tumors were given adjuvant carboplatin even for stage I disease, but chemotherapy may not be appropriate treatment for women with BOTs, considering the risks of complications and the possible impact on fertility.

In **conclusion**, this thesis identifies age, stage, residual disease, and postoperative CA-125 as prognostic factors for survival of EOC. The 5-year RS and the PFS rates for patients with advanced EOC treated with the chemotherapy of paclitaxel+carboplatin after surgery showed no improvement over earlier chemotherapy treatment. Because 5- and 10-year RS for BOT equals 100%, fertility-saving surgery seems most suitable for younger women with BOT.

Key words: ovarian cancer, borderline tumors, prognostic factors, survival, paclitaxel.

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I. **Åkeson, M.**, Zetterqvist, B-M., Holmberg, E. and Horvath G.

Improved survival with clinical guidelines? Evaluation of a quality register linked to clinical guidelines for ovarian cancer in the western health care region in Sweden between 1 September 1993 and 1 June 1998. *Acta Obstet Gynecol Scand* 2005;84:1113-1118.

II. **Åkeson, M.**, Zetterqvist, B-M., Holmberg, E., Jakobsen, A-M., Brännström, M., Horvath, G. A population-based 5-year cohort study including all cases of epithelial ovarian cancer in western Sweden: 10-year survival and prognostic factors. *Int J Gynecol Cancer* 2008, in press.

III. **Åkeson, M.**, Zetterqvist, B-M., Dahllöf, K., Brännström, M., Horvath, G.

Effect of adjuvant paclitaxel and carboplatin for advanced epithelial ovarian cancer: a population-based cohort study of all patients in western Sweden with long-term follow-up. *Acta Obstet Gynecol Scand* 2008, in press.

IV. **Åkeson, M.**, Zetterqvist, B-M., Dahllöf, K., Jakobsen, A-M., Brännström, M., Horvath, G. Population-based cohort follow-up study of all patients operated for borderline ovarian tumor in western Sweden during an 11 year period. *Int J Gynecol Cancer*, 2008;18:453-459.



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