

Do pre-diagnostic drinking habits influence breast cancer survival?

Claudia Allemani¹, Franco Berrino², Vittorio Krogh³, Sabina Sieri³, Serenella M Pupa⁴, Elda Tagliabue⁴, Giovanna Tagliabue⁵, and Milena Sant¹

¹Department of Preventive and Predictive Medicine, Analytical Epidemiology Unit, ²Department of Preventive and Predictive Medicine, Unit of Etiological Epidemiology and Prevention, ³Department of Preventive and Predictive Medicine, Nutritional Epidemiology Unit, and ⁴Laboratories and Department of Experimental Oncology, Molecular Biology Unit, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan; ⁵Department of Preventive and Predictive Medicine, Lombardy Cancer Registry, Varese Province, Fondazione IRCCS Istituto Nazionale dei Tumori, Milan, Italy

ABSTRACT

Aims and background. Alcohol consumption increases the risk of developing breast cancer and may also be associated with late diagnosis, recurrence, distant metastases and death. Many studies have examined the role of alcohol as a risk factor for the development of breast cancer, but very few studies have addressed the role of alcohol as a prognostic factor for survival among women diagnosed with breast cancer. The aim of this study was to investigate the survival of women with breast cancer in relation to pre-diagnostic alcohol intake and other factors known to influence prognosis.

Methods. We analyzed data for 264 women in the EUROCARE and ORDET studies who were diagnosed with breast cancer from 1987 up to 31 December 2001 and for whom information was available on follow-up, stage at diagnosis, HER-2 and hormone receptor status, and pre-diagnostic dietary alcohol intake, categorized as zero (0 g/day, non-drinkers), moderate (up to 13 g/day, about 1 serving) and high (>13 g/day). Ten-year relative survival was estimated using the maximum-likelihood approach. The excess risk of death within 10 years of diagnosis was modeled by level of alcohol intake, adjusting separately for age, stage, body mass index and tumor subtype.

Results. Ten-year relative survival was lower in women who drank more than 13 g/day (65%; 95% CI, 47-78) than in non-drinkers (88%; 95% CI, 75-95). The excess risk of death within 10 years was significantly higher in women who drank more than 13 g/day than non-drinkers (relative excess risk, 4.13; 95% CI, 1.69-10.10) and was not altered by adjustment for other prognostic factors. The excess risk within 10 years was higher for women with a body mass index of 25 kg/m² or higher (relative excess risk, 2.20; 95% CI, 1.01-4.70) and higher for those with more advanced disease.

Conclusions. Women who drank more than 13 g alcohol per day had lower survival than non-drinkers. The excess risk of death within 10 years of diagnosis was unaffected by other known risk factors. High alcohol consumption may be an adverse prognostic factor for breast cancer.

Key words: alcohol consumption, breast cancer, prognostic factors, survival.

Acknowledgments: We acknowledge with thanks the invaluable collaboration of pathologists at hospitals in the Province of Varese, where patients were treated. We thank Don Ward for help with the English and Chiara Margutti for secretarial assistance. We are grateful to Professor Michel Coleman and Dr. Bernard Rchet for their precious suggestions and critical revision of the article. The study was sponsored by grants from the Italian Association for Research on Cancer (AIRC) (PI Dr. Milena Sant). It was presented at the *Groupe des Registres de Langue Latine* (GRELL) Meeting 2008 in Parma and was awarded the Enrico Anglesio Prize, of the Anglesio Moroni Foundation, Turin, Italy.

Correspondence to: Claudia Allemani, PhD, Department of Preventive and Predictive Medicine, Analytical Epidemiology Unit, Fondazione IRCCS Istituto Nazionale dei Tumori, Via Venezian 1, I-20133, Milan, Italy. Tel +39-02-2390-3521/2901/2902; fax +39-02-2390-3516; e-mail claudia.allemani@istitutotumori.mi.it

Competing interests: none.

Received August 3, 2010;
accepted December 6, 2010.