Role of tumour histology in beta blocker association with ovarian cancer survival

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Background

There is evidence in breast, colorectal and prostate cancer that patients who use beta-blocker (BB) medication have better cancer outcomes. There is conflicting evidence of similar benefits in ovarian tumours. We investigated whether tumour histology played a role in the association between BB use and survival within Irish ovarian cancer patients.

Methods

Women diagnosed with invasive ovarian cancer (ICD10: C56) between 2001-2011 were identified from the National Cancer Registry Ireland. Those with continuous eligibility for a (means-tested) medical card in the year immediately prior to diagnosis were identified and linked to pharmacy claim records. Any BB exposure (WHO ATC: C07) in the year prior to diagnosis was determined. Associations between exposure and survival were estimated using Cox regression with follow-up until 31/12/2012. All cause survival, ovarian cancer-specific survival and survival from other (non-cancer) causes were estimated. Sub-group analyses by tumour histology were pre-planned. Histology was derived from Registry data and was classified as: serous carcinoma, adenocarcinoma, other carcinoma , and other tumours (unknown and other histology).

Results

Of 3097 invasive ovarian cancers diagnosed 2001-2011, 1823 (59%) had a medical card for at least one year prior to diagnosis. Of these, 432 (24%) had some BB exposure in that year. 78% of women in the cohort had died by 31/12/2012 (median follow-up 5.8 years). Pre-diagnostic BB use was not associated with improved ovarian cancer specific survival or other-cause survival. Tumour histology did not modify the association with ovarian cancer specific survival.

Conclusion

We observed no effect of pre-diagnostic BB use on cancer-specific survival, overall or within histology subgroups.

National Cancer Registry Ireland

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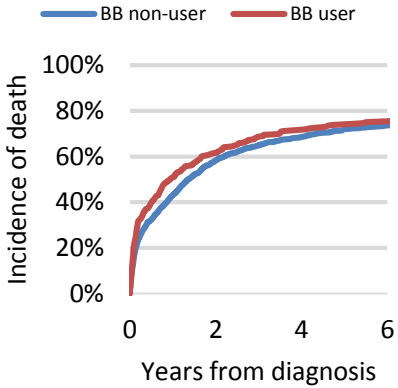
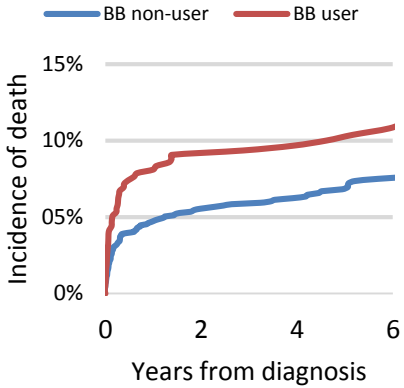
Ovarian Cancer



AHR=1.08, 95%CI (0.93,1.23)

Other deaths



AHR=1.39, 95%CI (0.92, 2.09)

Subgroup effects: Adjusted hazard ratio (95% confidence interval)

	All cause survival	Ovarian cancer specific survival	Non-cancer survival
Interaction test	*P=0.099*	*P=0.16*	*P=0.60*
Serous carcinoma	1.04 (0.73, 1.48)	0.95 (0.67, 1.35)	0.61 (0.19, 1.97)
Adenocarcinoma	1.03 (0.78, 1.36)	1.00 (0.77, 1.31)	0.76 (0.27, 2.17)
Other carcinoma	0.96 (0.73, 1.26)	0.94 (0.70, 1.24)	0.74 (0.33, 1.64)
Other tumours	0.74 (0.55, 0.99)	0.73 (0.55, 0.97)	0.39 (0.15, 1.01)

Adjusted: age, smoking, marital status, diagnosis year, urban/rural, deprivation, stage, grade, and surgery at diagnosis
**Not adjusted for: surgery, comorbidity or marital status (computational issue)*