

Do ovarian cancer patients using statins have better outcomes?

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Introduction

There is evidence in breast, colorectal and prostate cancer that patients who use statins have better cancer outcomes. There is also evidence of benefits in ovarian tumour cells. We investigated if stain use was associated with survival in ovarian cancer patients in Ireland.

Methods

Women diagnosed with invasive ovarian cancer (C56) between 2001-2011 were identified from the National Cancer Registry. Those with at least one year medical card history (means tested) prediagnosis were identified and linked to community prescription records. Any statin use (ATC code: C10AA, C10B) in the year prior to diagnosis was determined.



Association between statin use and cause-specific survival (end of follow-up: 31/12/2012) was estimated using Cox regression (adjusted for: age, smoking, marital status, year of diagnosis, urban/rural, local area deprivation, stage, grade, surgery at diagnosis). Secondary analysis accounting for competing risk was conducted.

Results

Of 3097 invasive ovarian cancers diagnosed 2001-2011, 1823 (59%) had a medical card history for at least one year prior to diagnosis and, of these, 490 (27%) had some exposure to statin in the year prior to diagnosis.

	Ν	Statin (%)
≤50	325	42 (12.9)
50-59	186	32 (17.2)
60-69	373	117 (31.4)
≥70	1125	385 (34.2)
Current	277	55 (19.9)
Ex-smoker	167	60 (35.9)
Never	880	273 (31.0)
High-Urban	639	190 (29.7)
Intermediate	368	116 (31.5)
Rural	678	191 (28.2)
Affluent	696	213 (30.6)
Deprived	1009	294 (29.1)
1	257	67 (26.1)
2/3	683	211 (30.9)
4	577	182 (31.5)
Unknown	306	84 (27.5)
Well	84	24 (28.6)
Moderately	203	64 (31.5)
Poorly	592	199 (33.6)
Missing	944	257 (27.2)
	≤50 50-59 60-69 ≥70 Current Ex-smoker Never High-Urban Intermediate Rural Affluent Deprived 1 2/3 4 Unknown Well Moderately Poorly Missing	≤5032550-5918660-69373≥701125Current277Ex-smoker167Never880High-Urban639Intermediate368Rural678Affluent696Deprived100912572/36834577Unknown306Well84Moderately203Poorly592Missing944

Pre-diagnostic statin use was not associated with ovarian cancerspecific survival (HR=1.06, 95%CI 0.92, 1.23) but was associated with reduced rates of other cause deaths (HR=0.57, 95%CI 0.36, 0.93).

		Cause-Specific	Competing Risks
Ovarian cancer	Unadjusted	1.16 (1.03, 1.30)	1.18 (1.05, 1.33)
	Adjusted	1.06 (0.92, 1.23)	1.20 (1.03, 1.40)
Other cause death	Unadjusted	0.80 (0.54, 1.19)	0.73 (0.49, 1.07)
	Adjusted	$0 \in \mathcal{T} (0, 20, 0, 0, 0)$	$0 \in A (0, 22, 0, 00)$

78% of women in the cohort had died by 31/12/2012 (median follow-up of those alive was 5.8 years).

Pre-diagnosis Alive Ovarian Other

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Adjusted

0.57 (0.36, 0.93)

0.54 (0.32, 0.90)

Adjusting for competing risks, statin use was significantly associated with increased risk of ovarian cancer-specific death (HR=1.20, 95%CI 1.03, 1.40, p=0.02) as well as reduced other causes.



exposure		cancer death	Cause death		
None	283	882	114	1279	
Any statin	109	401	34	544	

Conclusion

In this, the largest ever study of statin use in ovarian cancer, we observed an association between pre-diagnostic statin use and cancer survival when adjusting for competing risks. Further work is being conducted to verify these results in United Kingdom populations. Research is needed to better understand the mechanisms by which pre-diagnosis statin use might influence cancer survival.

Total



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