

Impact of statin use in the treatment of patients with cancer of the esophagus

MCJ Andereg¹, SM Lagarde¹, AE Slaman¹, SS Gisbertz¹, ORC Busch¹, SL Meijer², MCCM Hulshof³, JJGHM Bergman⁴, HWM van Laarhoven⁵, MI van Berge Henegouwen¹

¹Department of Surgery, ²Pathology, ³Radiation Oncology, ⁴Gastroenterology and ⁵Medical Oncology; Academic Medical Center, Amsterdam, the Netherlands

Background

- o For the vast majority of patients with resectable esophageal malignancies the preferred treatment consists of neoadjuvant chemo(radio)therapy, nC(R)T, followed by esophagectomy.
- o Statins are increasingly used to treat hypercholesterolemia and are currently the most commonly prescribed drug in the world
- o Preclinical studies have shown statins to have anti neoplastic effects like arrest of cell-cycle progression, induction of apoptosis, and inhibition of angiogenesis and tumor growth
- o In rectal cancer it has been stated that statin therapy is associated with an improved response to neoadjuvant chemoradiation

Aim

To determine the effect of statins on pathologic complete response (pCR) and survival after nC(R)T and surgery for locally advanced esophageal cancer

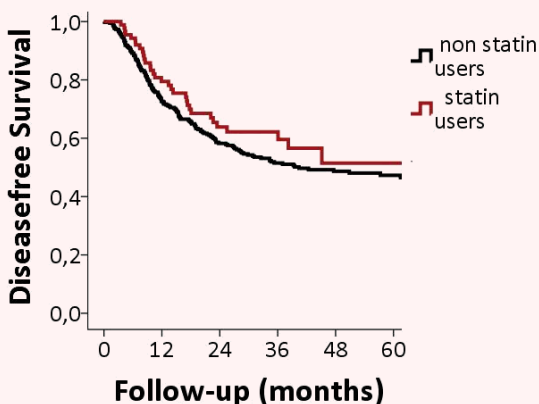
Patients & methods

- o Study period: March 1994 – September 2013
- o Inclusion of all consecutive patients treated with nC(R)T, followed by esophagectomy
- o Division: Non-statin users vs. Lipophilic- vs. Hydrophilic statin users
- o Surgical exploration: transthoracic / transhiatal, conventional / minimally invasive
- o Standardized pathologic examination & follow-up
- o Multivariate Cox regression analysis to identify independent prognostic factors

Multivariate Cox Model	HR (95% CI)	P-value
Disease free survival		
Statin use	0.787 (0.541-1.144)	0.209
Lipophilic statin use	0.642 (0.385-1.072)	0.090
Overall survival		
Lipophilic statin use	0.664 (0.403-1.094)	0.108

Results

- o Number of included patients: 463
- o Neoadjuvant chemo- vs. chemoradiotherapy: 88 (19.0%) vs. 375 (81.0%)
- o Non-statin users vs. statin users: 373 (80.6%) vs. 90 (19.4%)
- o Lipophilic vs. hydrophilic statin users: 49 (54.4%) vs. 41 (45.6%)
- o Baseline characteristics statin users: higher age, higher BMI, higher ASA score, similar clinical tumor stage
- o Larger part of statin users received neoadjuvant chemoradiotherapy compared to nonusers (88.9% vs. 79.1%, P 0.033)
- o pCR in non-statin users vs. statin users: 17.4% vs. 22.2% (P 0.291)
- o Median disease free survival in non-statin users vs. statin users: 40.4 vs. 45.0 months (P 0.245)
- o Median overall survival in non-statin users vs. statin users: 41.9 vs. 50.5 months (P 0.284)
- o Subgroup analysis (adenocarcinoma only): median disease free survival in lipophilic vs. non/hydrophilic statin users: 50.9 vs. 39.5 months (P.0.066)



Conclusion

Statin users did not have different outcomes compared with non-users. This study does not support modification or discontinuation of statin therapy for patients with esophageal cancer

Authors declare no conflict of interest

@: m.c.andereg@amc.nl; m.i.vanbergeheneouwen@amc.nl

