Abstract

PURPOSE: There has been growing interest in the potential anticancer activity of statins based on preclinical evidence of their antiproliferative, proapoptotic, and radiosensitizing properties. The primary objective of this study was to determine whether statin use is associated with improved clinical outcomes in patients treated with radiotherapy (RT) for prostate cancer.

PATIENTS AND METHODS: In total, 691 men with prostate adenocarcinoma treated with curative-intent RT between 1988 and 2006 were retrospectively analyzed. Of those, 189 patients (27%) were using statins, either during initial consultation or during follow-up. Lipid panels were collected (n = 298) a median of 5 months before RT start. Median follow-up was 50 months after RT.

RESULTS: Statin use was associated with improved freedom from biochemical failure (FFBF; P < .001), freedom from salvage androgen deprivation therapy (FFADT; P = .0011), and relapse-free survival (RFS; P < .001). Improved FFBF for statin users was seen in low-, intermediate-, and high-risk groups (P = .0401, P = .0331, and P = .0034, respectively). The improvement in FFBF with statin use was independent of ADT use or radiation dose. On multivariable analysis, statin use was associated with improved FFBF (P < .001) along with pretreatment prostate-specific antigen < or = 8.4 (P < .001), stage less than T2b (P = .0111), and Gleason score < 7 (P = .0098). On univariate analysis, pretreatment total cholesterol < 187 (89% v 80%; P = .0494) and low-density lipoprotein (LDL) < 110 (96% v 85%; P = .0462) were associated with improved 4-year FFBF.

CONCLUSION: Statin use was associated with a significant improvement in FFBF, FFADT, and RFS in this cohort of men treated with RT for prostate cancer. The favorable effect of statins may be mediated by direct effect or via the LDL-lowering effect of these medications.

Comment in

Statin use and the risk of prostate-specific antigen recurrence after radiation therapy with or without hormone therapy for prostate cancer. [J Clin Oncol. 2010]
Prostate cancer: time to trial statins? [Nat Rev Urol. 2010]
[In Process Citation]. [Urologie A. 2013]
Smoking, obesity, and statin therapy in the prognosis of prostate cancer. [J Clin Oncol. 2010]
Statins in the prevention of prostate cancer recurrence: are certain biases exaggerating the results? [J Clin Oncol. 2010]

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