



Effects of Religion on Outcomes after Robotic-Assisted Pulmonary Lobectomy for Non-Small Cell Lung Cancer



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INTRODUCTION

Numerous prospective studies have reported a robust relationship between religiosity and increased survival in patients with a range of illnesses. Non-small cell lung cancer (NSCLC) is the number one cause of cancer mortality in the United States. Religious faith has been associated with a decreased hazard ratio for mortality in cancer patients.

OBJECTIVE

We evaluated the unexamined relationship between religious faith and outcomes after robotic-assisted pulmonary lobectomy for NSCLC.

METHODS

We retrospectively analyzed consecutive patients who underwent RAPL September 2010 - March 2022 by one surgeon. Of 697 evaluable patients, 637 patients were religious and 60 were non-religious. Demographics, medical history, tumor characteristics, perioperative complications, and outcomes were compared in univariate analysis. Cox regression was used for survival analysis.

RESULTS

There were no differences in demographics, medical history, including smoking history, chronic obstructive pulmonary disease, pulmonary fibrosis, liver failure, end-stage renal disease, diabetes mellitus, congestive heart failure, and myocardial infarction, or tumor characteristics.

RESULTS (CONTINUED)

Perioperatively, estimated blood loss ($p<0.001$), skin-to-skin operative time ($p=0.013$), and hospital length of stay ($p=0.018$) were greater among the religious group (Table I). The proportion of patients who experienced postoperative complications also was higher among the religious patients (41.2%) compared to the non-religious patients (29.8%), although this difference did not reach statistical significance ($p=0.094$; Table I). There were no differences in discharge disposition ($p=0.185$), in-hospital mortality ($p=0.254$), or 30-day mortality ($p=0.376$) (Table I).

Table I. Comparing selected variables among religious and not religious patients.

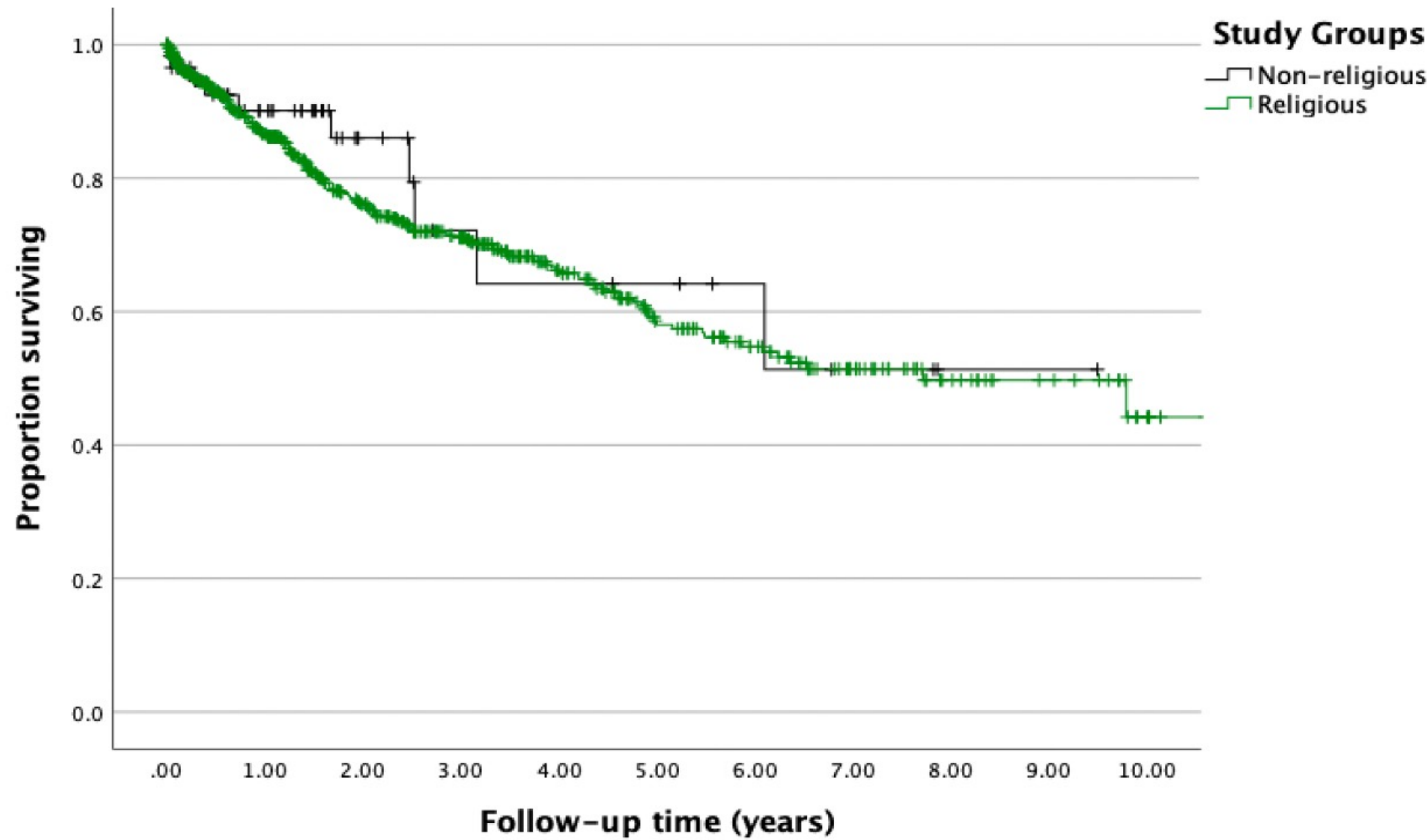
Variables	Religious (N = 637)	Non-Religious (N = 60)	<i>p</i> value
Estimated Blood Loss, mL	150 [73, 250]	75 [25, 150]	<0.001
Skin-to-Skin duration, minutes	177 [145, 216]	163 [136, 197]	0.013
Hospital Length of Stay, days	4 [3, 7]	3 [3, 6]	0.018
Favorable discharge disposition	550/617 (89.1)	54/57 (94.7)	0.185
In-hospital mortality	9/637 (1.4)	2/60 (3.3)	0.254
30-day mortality	11/629 (1.7)	2/59 (3.4)	0.376
Postoperative complications	250/607 (41.2)	17/57 (29.8)	0.094

Values are presented as median [1st quartile, 3rd quartile] and n/N (%).

Ten-year overall survival was similar between the two groups (log-rank $p=0.420$; Figure I).

RESULTS (CONTINUED)

Figure I. Kaplan-Meier curve of ten-year overall survival by religion status.



DISCUSSION

The religious group experienced higher intraoperative estimated blood loss, longer skin-to-skin operative time, and higher rates of postoperative complications, but similar 5-year and 10-year overall survival compared to the non-religious group. This generates the question of whether the effects of a religious faith (positive attitude, supportive community, etc.) are beneficial in recovery after less favorable perioperative outcomes to help patients achieve similar long-term survival to those with better perioperative outcomes.

CONCLUSION

Further research is needed to determine whether surgical oncology patients or lung cancer patients experience survival benefits associated with religious faith.