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ABSTRACT

Background: In head & neck cancer (HNC) survivors, lung cancer (LC) screening may aid in detecting a second primary LC or metastatic HNC earlier in the course of disease and thus may improve survival.

Methods: We identified participants with a history of HNC enrolled in the National Lung Screening Trial (NLST). This randomized trial compared screening using LDCT chest versus CXR in patients aged 55-74 at high-risk for lung cancer.

Results: Among 53,452 enrolled participants, we identified 171 participants with HNC prior to randomization. The incidence of LC was 2.5 times higher among participants with a prior HNC compared with participants with no history of malignancy prior to enrollment (2,080 per 100,000 person years versus 609 per 100,000 person years). In participants with a history of HNC the incidence of LC was 2,610 cases per 100,000 person-years (12 cancers) in the LDCT group, and 1,594 cases per 100,000 person-years in the CXR group (8 cancers, rate ratio 1.55, 95% CI 0.59-3.63).

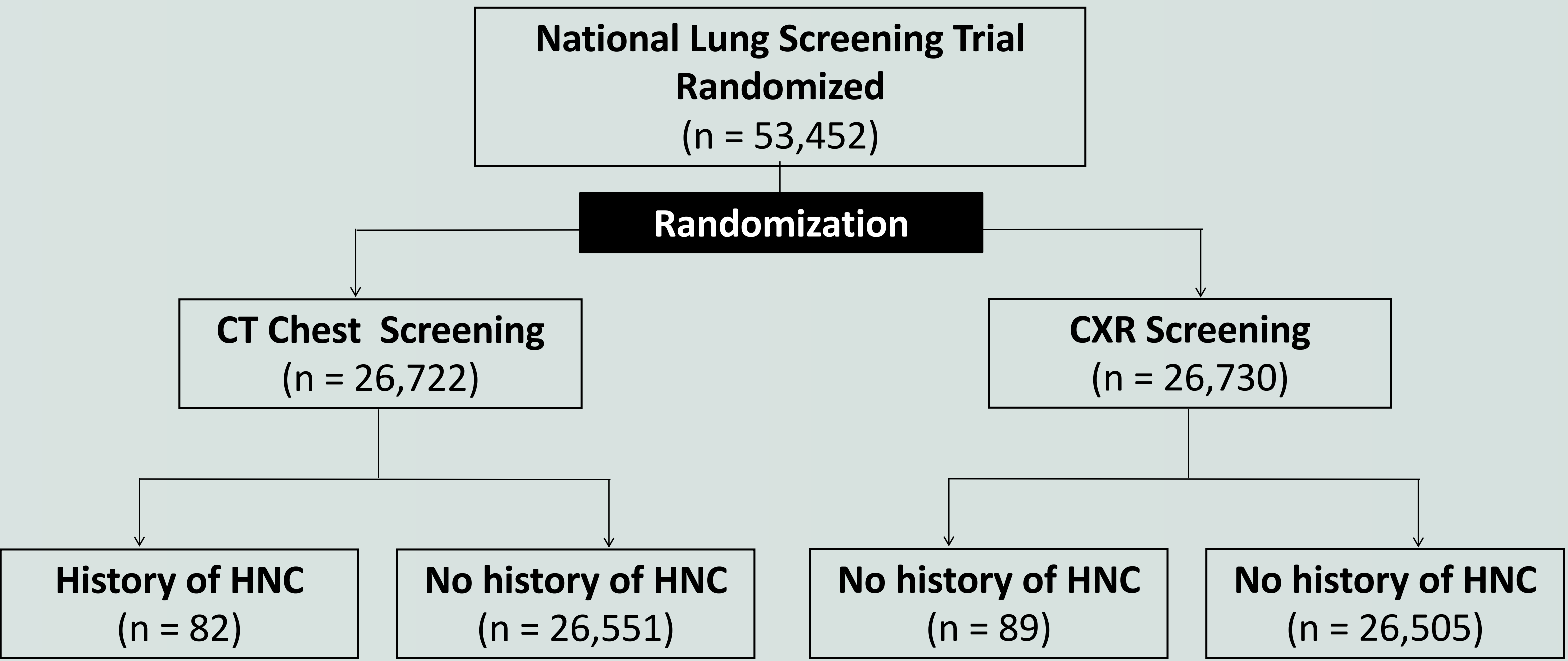
Conclusion: Patients with a history of HNC are at especially high-risk for LC underscoring the importance of LC screening in these patients.

INTRODUCTION

- 70-80 percent of HNC is associated with prior tobacco use which places HNC at high-risk of second primary cancers such as LC
- US Preventive Services Task Force (USPSTF) guidelines recommend low-dose computed tomography (LDCT) lung cancer screening every year for those aged 50-79 with 20 pack-years or greater, regardless of prior cancer status. However, USPST guidelines do not mention HNC as a risk factor for lung cancer
- However, adherence with USPSTF lung cancer screening guidelines is estimated to be only 14%

METHODS

- National Lung Screening Trial
- Randomized trial examining screening for lung cancer in participants aged 55-74 and ≥30 pack year current smokers or who]quit within 15 years
- We identified 171 patients with HNC prior to enrollment
- (1) We compared incidence of LC in patients with prior HNC, other prior cancers or no previous cancer
- (2) We compared the incidence of LC and recurrent HNC in patients with prior HNC randomized to either LDCT chest or CXR



RESULTS

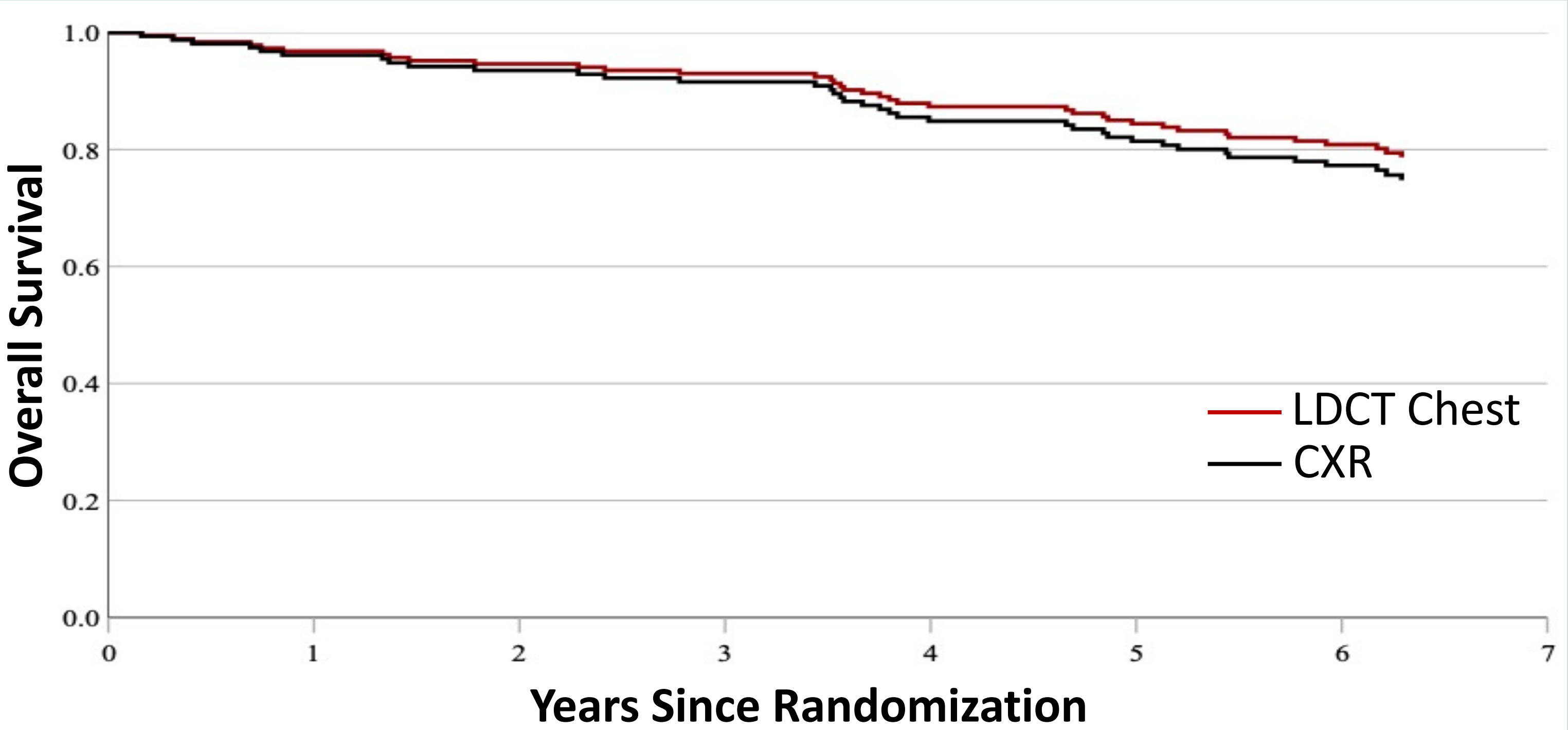
Incidence of Lung Cancer Based on Prior Cancer History

	Cases	Lung Cancer Diagnosed	Incidence LC per 100,000 person years
Prior HNC	171	20	2,063
Prior Other Cancer	2,190	80	842
No previous cancer	48,920	1,937	601

RESULTS

Table: Second Primary Cancers Identified with LDCT Chest versus CXR

	LDCT Chest N (%)	CXR N (%)
HNC dx after randomization	6 (7.3%)	0 (0%)
LC dx after randomization	12 (14.6%)	8 (9.0%)



CONCLUSIONS

- In a secondary analysis of the NLST we found that patients with prior HNC had a 3.4 times greater rate of LC compared with patients with no previous cancer.
- Adherence with LC screening in the real world is low and our results underscore the importance of LC screening in patients with prior HNC.
- In total these results support routine annual LDCT chest screening for lung cancer in HNC survivors with prior significant tobacco use.