

371P Real-world insights into treatment patterns and outcomes in stage III non-small cell lung cancer (NSCLC): KINDLE study India analysis

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Background: Heterogeneous nature and poor prognosis of stage III NSCLC, accounting for ≈29% of NSCLC burden, cause substantial management challenges in India. We present the results of Indian cohort from the real-world, multicountry, observational KINDLE study that explored treatment patterns and associated outcomes in the pre-immuno-oncology era.

Methods: Retrospective data from 15 sites in India were analyzed for stage III NSCLC patients diagnosed between 01Jan2013 and 31Dec2017 with at least 9 months (m) of documented follow-up. Descriptive analyses for demographics, clinical characteristics, and treatment modalities, and inferential statistics to correlate treatment with progression-free survival (PFS) and overall survival (OS) were conducted.

Results: Data for 494 patients: median age 60.0 years (range 25-84), 83.4% men, 58.7% current/former smokers, and 48.2% and 51.8% with stage IIIA and IIIB NSCLC (AJCC 7th ed.), respectively; 84.9% had ECOG performance score of 0/1 at diagnosis. Squamous cell and adenocarcinoma represented 48.5% and 44.6%, respectively; 15.4% had EGFR mutations. Of the 18 first-line treatment modalities, the most frequent were concurrent chemoradiotherapy (cCRT) (29.5%), sequential CRT (13.6%), chemotherapy (CT) alone (13.3%), and radiotherapy alone (12.7%). Overall median PFS was 16.4m, 95% confidence interval (CI) 14.36-19.38 (stage IIIA: 19.4m, 95% CI 15.08-25.95; IIIB: 15.4m, 95% CI 12.45-19.78). Overall median OS was 66m, 95% CI 49.81-noncalculable (NC); (stage IIIA: NC, 95% CI 52.14-NC; IIIB 66.0m, 95% CI 36.04-NC). In stage IIIA patients, cCRT was associated with longer OS than CT alone (64.1m vs. 30.0m, p=0.0493). Among stage IIIB patients, cCRT was associated with significantly higher OS than CT alone (66.0m vs. 22.6m, p=0.0226).

Conclusions: The India data reveal varied treatment modalities in stage III NSCLC. Overall median PFS and OS were better for India (16.4m and 66m) than in the global cohort (12.5m and 34.9m). cCRT was associated with improved survival in both stage IIIA and IIIB. Improved access to newer medicines and quality care will be key to further enhance patient outcomes.

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372P Treatment patterns and outcomes in stage III non-small cell lung cancer (NSCLC): Real-world experience in Singapore from the KINDLE study

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Background: Stage III NSCLC, a heterogeneous disease with poor prognosis despite multimodal treatment, warrants study of treatment patterns. The patterns and survival outcomes in real-world pre-immuno-oncology (IO) era in Singapore were studied.

Methods: Retrospective data were collected from 3 centers (part of the KINDLE observational study) on patients diagnosed with stage III NSCLC between 01JAN2013 and 31DEC2017, with at least 9 months (m) of available records. Descriptive and inferential statistics were used to analyze clinico-demographics, treatment patterns, and their correlation with progression free survival (PFS) and overall survival (OS).

Results: Characteristics for 210 patients: median age 63 years (range 36-86), 72.4% men, 65.7% ever smoked, 61.8% with stage IIIA NSCLC (AJCC 7th ed.), and 90.9% with ECOG score of 0/1. Histology types were adenocarcinoma (61.4%) and squamous cell carcinoma (24.8%); 43.3 % had EGFR mutations. Of the 17 first-line regimens,

predominant were concurrent chemoradiotherapy (cCRT, 31.2%), radiotherapy (12.9%), and sequential CRT (sCRT, 6.9%). Median PFS was 11.5m, 95% confidence interval (CI) 9.33-13.86 [14.3m [IIIA] vs 6.5m [IIIB], hazards ratio [HR] 0.553, p=0.0002); median OS was 26.3m, 95%CI 22.80-37.09 (40.7m [IIIA] vs 17.1m [IIIB], HR 0.515, p=0.0002). cCRT (HR 0.621, p=0.003) and surgery (HR 0.485, p=0.002) were associated with longer PFS and OS, respectively. In stage IIIA, surgery+CT (p=0.03) and cCRT (p=0.004) were associated with longer OS than CT alone; cCRT was associated with better OS than EGFR-TKI (p=0.044) in all stage IIIA and in unresectable stage IIIA and IIIB with EGFR mutations. In stage IIIB, cCRT (p<0.0001), sCRT (p=0.015), and EGFR-TKI (p=0.040) were associated with longer OS than RT alone; cCRT was associated with longer OS than CT alone (p=0.0014). With cCRT, median OS for unresectable stage IIIA and IIIB was 50.8m in EGFR+ and 25m in EGFR-.

Conclusions: Similar to the main KINDLE study, this subset reveals varied treatment practices for stage III NSCLC. Poor OS with existing treatment patterns reiterates the unmet medical need of the pre-IO era. This calls for improved access to newer medicines and quality care.

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373P Chromatin accessibility reveals potential prognostic value of the peak set associated with smoking history in patients with lung adenocarcinoma

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Background: Considerable differences in molecular characteristics have been defined between non-smokers and smokers in patients with lung adenocarcinoma (LUAD). However, study of open chromatin patterns associated with LUAD progression caused by smoking is still lacking.

Methods: Here, we firstly constructed a novel network based on correlations between each ATAC-seq peak from TCGA data using our previously developed algorithm. Subsequently, principal component analysis was performed on LUAD samples with retained peaks filtered by the correlation network. Prognostic value of the significant ATAC-seq peak set with overall survival in these smoking related LUAD patients was assessed. Then, pathway analysis of the peak-related genes was conducted for potential pathways identification.

Results: We identified a set of peaks with significant correlation that clearly differentiated long-term smokers from those with short-term smoking history in LUAD patients and also significantly associated with overall survival of these patients. The gene set that were demonstrated to be related to those peaks, such as B3GNT3, ACTN4 and CLDN3, are strongly associated with LUAD development, which is consistent with the important roles for the associated pathways in LUAD oncogenesis induced by smoking, including glycosphingolipid biosynthesis and tight junction pathways.

Conclusions: Our study may provide valuable insights on exploration of ATAC-seq peaks and on smoking-related LUAD carcinogenesis from a perspective of open chromatin changes.

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