Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

edition, diagnosed between 1998 and 2016, treated with surgery with or without chemotherapy. Outcomes were subdivided into alive, death from lung cancer, death from another type of cancer, death from non-cancer causes and unknown. **Results:** There were 26,530 patients (pts) that met the inclusion criteria, of which 16,757 (63.2%) died during the study period. The most common COD was lung cancer (9,046 pts, 54.0%), followed by death from other non-malignant causes (5,902 pts, 35.2%), and death from other cancers (1,721 pts, 10.3%). COD was unknown in 88 pts (0.5%). A total of 4,518 patients (17.0% of total pts and 26.9% of deaths) died within one year from diagnosis. Lung cancer was the most common COD within 12 months (2,869; 63.5%) followed by non-malignant causes (1,195; 26.4%), other malignancies (306; 6.7%) and unknown causes (24; 0.5%). The most common known causes of non-malignant deaths within one year were cardiovascular disease (422; 35.3%), chronic obstructive pulmonary disease (267; 22.3%), infection (160; 13.4%) and stroke (72; 6.2%). **Conclusion:** In the general population represented by the SEER database, 17% of patients with early stage SCC undergoing surgery die within 12 months from diagnosis. Despite the indication for surgery and chemotherapy based on stage at diagnosis, better selection of patients according to co-morbidities and performance status may decrease the early mortality after treatment with curative intent. **Keywords:** Squamous cell lung cancer, SEER, cause of death

P09.27
Descriptive Review of Breast Cancer Patients With Subsequent Lung Cancer

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Introduction: Breast cancer (BC) is the most common cancer in women. With advances in treatments and early detection, survival rates have significantly improved. However, survivors are at risk for developing secondary primary malignancies due to radiation and chemotherapy exposure. Lung cancer (LC) has been shown to be one of the largest secondary cancers among breast cancer survivors. Radiotherapy, race, age and tumor type have been associated with this relationship. We look to evaluate the association of breast cancer and secondary lung cancer at our health system. **Methods:** An IRB approved, retrospective chart review was conducted using outpatient records at Northwell Health from 2010 to 2017. This review was limited to females who were diagnosed with either primary breast or lung cancer, which progressed into a secondary malignancy. Patient information analyzed included radiation treatment history, chemotherapy treatment history, family history, smoking history and presence of any germline or somatic mutations. **Results:** During the timeframe of the study, 19,150 patients seen at our institution had a history of BC, 8,367 patients a history of LC and 303 patients had had both. Ninety-seven patients were excluded due to inadequate medical records leaving 206 patients for analysis. Majority of the patients who had history of both cancers had breast cancer as first diagnosis (n=177, 86%) and this was the group that we focused for this study. More than half of these patients (58%) had a family history of cancer and 58% had a smoking history (median = 30 pack years). The median time for developing a secondary LC was 8 years (range, 0.1 to 42.7). Fifty-five percent of patients (96/175) received radiation treatment, 94% (164/175) surgery and 27% (48/175) intravenous chemotherapy. Majority of these patients had hormone positive BC (92/108, 85%) and 20% (18/87) HER2 positive BC. Fourteen patients received genetic counseling. Out of those nine patients tested positive for germline pathogenic variant in BRCA1 only (2), BRCA 2 only (1) or both (6). Ninety-four percent of patients (157/167) developed non-small cell LC and 10 developed small cell LC. **Conclusion:** Even though prognosis for early stage BC is excellent, patients may develop secondary malignancies. Risk factors for developing secondary LC after primary BC have not been clearly identified. Radiotherapy has been described previously as a potential risk factor, although studies are conflicting. Genetic backgrounds and hormonal characteristics of BC may also play a role and have not been well defined. Further studies are needed to better define risk factors for developing secondary LC after primary BC. **Keywords:** breast cancer, secondary lung cancer

P09.28
Access to Intermediate and Intensive Care for Patients With Lung Cancer During the COVID-19 Period

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Introduction: COVID-19 pandemic has dramatically impacted the health national systems, interfering with the access to standard care of other illnesses. However, the real impact of COVID-19 crisis on the cancer care remains unknown. We assessed the access to invasive procedures and critically ill patient units (intensive and intermediate care) in patients with lung cancer hospitalized during pandemic period (during-Covid) compared to the same period in 2019 (before-Covid). **Methods:** Single-center retrospective study of lung cancer patients hospitalized before (Jan-Jun.2019) and during-Covid (Jan-Jun.2020). Clinical data, access to care and interventions were collected. Patients were also classified in 3 groups according to an estimated life expectancy (based on stage, histology, molecular profile and line-therapy): favorable group (FG) with median (m) overall survival (OS) >5 years, intermediate (IG) 1-5 years and poor (PG) <1 year. We primarily compared the number of admissions to intensive and intermediate-unit care (ICU and intermCU respectively), between both periods, and then stratified by prognostic group. We also assessed the invasive procedures in each period. **Results:** 229 admissions were registered (N=180 patients). Median age was 66 years, 64% were male, 67% with Performance status ≥2; 83% had non-small cell lung cancer and median length of stay was 9 days (1-104). Most of them (82%) had advanced disease; 63% were under systemic therapy. By prognostic groups: 17 patients were considered FG (7%), 161 as IG (70%) and 51 as PG (22%). Nine patients were admitted due to active COVID-19 infection. The table 1 summarized the clinical characteristics and interventions in both periods. During-Covid, only 2% (n=2) of patients was admitted in ICU vs. 6% (n=8) before-Covid, although, no differences were observed in access to intermCU. The number of invasive interventions was also lower (15%, n=15) vs. before-Covid (33%, n=43). By prognostic: 20% of patients in FG (n=2) and 9% in IG (n=6) were admitted to ICU/intermCU during Covid vs. none FG cases and 9% in IG (n=8) before-Covid. In contrast, in the PG lower admissions were observed during-Covid (6%, n=1) vs. before-Covid (20%, n=7) With a mOS since date of hospitalization of 3.3 months (95% CI 2.6-4.8), the 30-days-mortality rate was 23% overall; slightly higher during (26%) vs. before-Covid (20%). Updated data will be presented in the meeting.

	During-Covid (2020) (N, %)	Before-Covid (2019) (N, %)
Baseline characteristics		
Admissions	N=96 (16 per month)	N=133 (21 per month)
Sex Female Male	42 (44%) 54 (56%)	40 (30%) 93 (70%)
Age <65 years >65 years	48 (50%) 48 (50%)	59 (44%) 74 (56%)
Performance Status at admission 0-1 ≥2	1 (1%) 95 (99%)	25 (19%) 105 (81%)
Stage at admission Locally advanced Advanced	9 (9%) 13 (14%) 74 (77%)	8 (6%) 11 (8 %) 114 (86%)
Number of metastasis sites at admission ≤2 >2	69 (72%) 27 (28%)	72 (54%) 61 (46%)
Line of therapy (only advanced disease) 0-1 ≥2	65 (68%) 31 (32%)	90 (68%) 43 (32%)
Prognostic groups Favorable (FG) Intermediate (IG) Poor group (PG)	10 (10%) 70 (73%) 16 (17%)	7 (5%) 91 (69%) 35 (26%)
Access to care		
Intermediate Care Yes No	7 (7%) 89 (93%)	7 (5%) 126 (95%)
Invasive Care Yes No	2 (2%) 94 (98%)	8 (6%) 125 (94%)
N# Invasive interventions (e.g. pleural, pericardial punction…)	14 (14%)	38 (29%)
Elective procedures	1 (1%)	5 (4%)

Conclusion: The access to critically ill patient units and invasive interventions for lung cancer patients seems to have been affected during-Covid vs. same period in 2019. The impact on outcomes will be assessed in a larger cohort ongoing. **Keywords:** COVID-19, Intensive Care Unit, lung cancer

P09.29 Immune-Related Adverse Events and their Association with Effectiveness of PD-1/PD-L1 Inhibitors in NSCLC: A Real-World Study from China

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Introduction: Programmed cell death-1/programmed cell death ligand-1 (PD-1/PD-L1) inhibitors are increasingly used in China, but no real-world data are available about the immune-related adverse events (irAEs). This real-world retrospective study aimed to assess the safety and effectiveness of PD-1/PD-L1 inhibitors in patients with non-small cell lung cancer (NSCLC) and to analyze the association between irAEs and effectiveness. **Methods:** This was a retrospective study of the clinical information of patients with non-small cell lung cancer (NSCLC) treated with PD-1/PD-L1 inhibitors from August 2016 to November 2019 at the Thoracic Medicine of Beijing Cancer Hospital.The patients were divided into irAE or non-irAE groups. Overall adverse events, impact of irAE on tumor response, and association of irAEs with effectiveness were evaluated. **Results:** One hundred and ninety-one patients were included in this study, including 70 (36.6%) patients in IrAE Group and 121 (63.4%) patients in Non-irAE Group. AE, grade 3-5 AEs, and IrAE were occurred in 107 (56.0%), 24 (12.6%) and 70 (36.6%) of 191 patients respectively. The objective response rate (ORR) and disease control rate (DCR) were higher in irAE Group compared with Non-irAE Group (42.0% vs. 25.8%, P=0.038; 91.9% vs. 70.8%, P=0.002). Multivariable analyses identified irAE associated with progression-free survival (HR=0.62, 95%CI: 0.43-0.91; P=0.015), but not with overall survival (HR=0.76, 95%CI: 0.44-1.28; P=0.299). **Conclusion:** In NSCLC treated with PD-1/PD-L1 inhibitors, patients with irAEs showed improved effectiveness over patients without irAEs. Future studies of anti-PD-1/PD-L1 immunotherapy should address this association to explore the underlying biological mechanisms of efficacy. **Keywords:** programmed cell death (PD-1) / programmed cell death ligand 1 (PD-L1) inhibitor, Immune-related adverse events, non-small cell lung cancer

P09.30 A Clinical and Molecular Portrait of a Younger Population with Advanced Non-Small Cell Lung Cancer

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Introduction: A smaller proportion of patients with metastatic non-small cell lung cancer present at a young age. We explored whether there were significant differences in demographics, baseline characteristics, histology, molecular characteristics and treatment uptake in a younger population less than 55 years old compared to older patients. **Methods:** With ethics approval, we reviewed retrospectively our cohort of all cases of de novo stage IIIB/IIIC/IV NSCLC seen in out-patient medical oncology consultation between 2009-2012, 2015-2017 and 2018, all combined. We compared demographics, baseline characteristics, histology, molecular characteristics and treatment uptake in a younger population less than 55 years old versus older patients. We also looked at differences in survival. **Results:** In total, 1081 patients were included. Patients less than 55 years old (n=91) represented only 8.4% of the cohort. Male to female ratio was smaller in the younger patients. Younger patients were more likely to be ECOG 0/1 (14/55 vs 8/38%), never smokers (21 vs 9%), and have adenocarcinoma histology (80 vs 69%). More EGFR+ cases (24% vs 14%) and ALK cases (16 vs 3%) were seen in the younger population. Overall, 79% of younger patients received palliative systemic treatment versus 57% in the older population. The younger patients had improved overall survival compared to the older patients (11.1 vs 7.5 months, p=0.0002).

Table 1. Baseline demographics and characteristics according to age

Characteristic	< 55 years old N (%)	≥55 years N (%)	P-value
No patients	91	990	
Age at diagnosis median years and [range]	51 [23-54]	69 [55-94]	**<0.0001**
Male/female	45 (50)/46 (51)	554 (56)/436 (44)	0.2319
ECOG 0	13 (14)	83 (8)	**0.0029**
ECOG 1	50 (55)	379 (38)	
ECOG 2	13 (14)	214 (22)	
ECOG 3	6 (7)	162 (16)	
ECOG 4	2 (2)	34 (3)	
Unknown	7 (8)	118 (12)	
Current smoker	50 (55.0)	417 (42)	**<0.0001**
Ex-smoker	22 (24)	480 (49)	
Never smoker	19 (21)	84 (9)	
Unknown	0	9 (0.9)	
Adenocarcinoma	70 (80)	649 (69)	0.4451
Squamous cell	12 (14)	204 (22)	
Large cell	2 (2)	34 (4)	
Other NSCLC/NOS	4 (5)/0	37 (4)/23 (2)	
Stage IIIB/IIIC/IV	4 (4)/0/87 (96)	72 (7)/1(0.1)/913 (92)	0.6098
Unknown	0	4 (0.4)	
PDL1 tested	8 (9)	108 (11)	0.0808
Not tested	28 (31)	405 (41)	
Unknown	55 (60)	477 (48)	
50% and higher	6 (75)	41 (38)	0.3222
1-49%	0	21 (19)	
<1%	2 (25)	35 (32)	
Insufficient sample	0	10 (9)	
Not tested	0	1 (0.9)	
EGFR negative	30 (73)	342 (79)	0.2308
EGFR positive	10 (24)	60 (14)	
EGFR inconclusive	1 (2)	30 (7)	
EGFR not tested	50 (55)	558 (56)	
L858R	1 (10)	4 (7)	0.7409
Exon 19 deletion	0	7 (12)	
Other	0	4 (7)	
ALK negative	31 (82)	377 (94)	**0.012**
ALK positive	6 (16)	12 (3)	
ALK inconclusive	1 (2)	13 (3)	
ALK not tested	53 (58)	588 (59)	

Percentages may not total 100 because of rounding.