2022 World Conference on Lung Cancer
International Association for the Study of Lung Cancer

CONGRESS OF ONCOLOGY
06–09 AUGUST 2022
VIENNA • AUSTRIA

Content

1. Sugemalimab offers PFS benefits for unresectable NSCLC
2. First results of sotorasib plus pembrolizumab in KRAS p.G12C-mutated NSCLC
3. IMPower010: First interim OS analysis of adjuvant atezolizumab in NSCLC
4. Sub-lobar resection as new standard-of-care for cT1aN0 NSCLC
5. NADIM: Risk of progression identified through RNA sequencing
6. NADIM II: OS benefit of neoadjuvant nivolumab plus chemotherapy in NSCLC
7. POSEIDON: Novel option for hard-to-treat subgroups of patients with metastatic NSCLC?
8. First DLL3-targeted therapy shows promise in SCLC
10. Talazoparib plus temozolomide appears efficacious in ES-SCLC
11. Pembrolizumab plus lenvatinib performs well in MPM
12. Early detection strategies in younger patients with lung cancer are urgently needed
13. Intensive co-located smoking cessation programme highly effective during lung screening
14. Do we underestimate the effect of air pollution on lung cancer incidence?
15. Interventions needed to address sexual health in lung cancer

“We bring the Congress to the Physician” through fast dissemination of new clinical insights with scientific scrutiny from the major medical congresses through multiple channels.
“Listen to the Medicom Podcast in Oncology”

This podcast channel includes a summary of articles presented at the major international medical conferences in oncology.
1. Sugemalimab offers PFS benefits for unresectable NSCLC

The final progression-free survival (PFS) analysis of the phase 3 GEMSTONE-301 trial demonstrated clinical benefits for patients with unresectable stage III non-small cell lung cancer (NSCLC) who were treated with sugemalimab after chemotherapy compared with those receiving placebo after chemotherapy. According to the investigators, sugemalimab presented itself as a new standard-of-care for the inoperable NSCLC population [1].

The phase 3 GEMSTONE-301 trial (NCT03728556) compared the efficacy of the PD-L1 inhibitor sugemalimab (n=255) with placebo (n=126) in patients with stage III, unresectable NSCLC who did not progress after either concurrent or sequential chemoradiotherapy (CRT). Sugemalimab displayed a significant PFS benefit over placebo in the pre-planned interim PFS analysis [2]. At the WCLC 2022, Prof. Yi-Long Wu (Guangdong Provincial People's Hospital, China) presented the results of the final PFS analysis of this trial.

After a median follow-up of 27.1 months, the median PFS was significantly higher in patients who were treated with sugemalimab versus those treated with placebo (10.5 vs 6.2 months; HR 0.65; 95% CI 0.50–0.84; P=0.0012). In addition, the 3-year PFS rate was 26.1% in the experimental arm and 0% in the placebo arm. These results were consistent in patients who had received sequential CRT (8.1 vs 4.1 months; HR 0.57, 95% CI 0.38–0.87) and in those who were treated with concurrent CRT (15.7 vs 8.3 months; HR 0.71, 95% CI 0.50–1.00). Although the overall survival (OS) data were immature at the time of the analysis, they appear to favour sugemalimab over placebo (median OS not reached vs 25.9 months; HR 0.69; 95% CI 0.49–0.97). No new safety issues were reported in this final PFS analysis.

1. Wu Y-L, et al. Sugemalimab vs placebo after cCRT or sCRT in pts with unresectable stage III NSCLC: final PFS analysis of a phase 3 study. OA02.05, WCLC 2022, Vienna, Austria, 06–09 August.

2. First results of sotorasib plus pembrolizumab in KRAS p.G12C-mutated NSCLC

Low-dose sotorasib as lead-in therapy, followed by pembrolizumab, demonstrated promising safety and efficacy data in patients with KRAS p.G12C-mutated advanced non-small cell lung cancer (NSCLC). Therefore, these results from the phase 1b CodeBreaK 100/101 study will lead to further exploration of this combination [1].

"Sotorasib is an approved monotherapy in the US, EU, and other countries for patients with previously treated KRAS p.G12C-mutated advanced NSCLC," said Dr Bob Li (Memorial Sloan Kettering Cancer Center, NY, USA). The CodeBreaK 100/101 study (NCT03600883) explored combinations of sotorasib, from 120 mg to 960 mg once daily, with either atezolizumab or pembrolizumab in patients with previously treated KRAS p.G12C-mutated NSCLC (n=58). Sotorasib was administered as lead-in therapy followed by combination with one of the PD-1 inhibitors (n=29), or as concurrent treatment (n=29).

"After a median follow-up of 12.8 months, the concurrent treatments displayed higher rates of treatment-related adverse events (AEs) than monotherapies of the involved agents," stated Dr Li. "However, the data implicated that lower doses of sotorasib may result in fewer AEs." Also, sotorasib as lead-in therapy demonstrated a lower incidence of grade 3 or 4 treatment-related AEs than the concurrent therapies (30–53% vs 60–79%). In addition, 88% of the first occurrences of grade 3 or 4 hepatotoxicity were outside of the dose-limiting toxicity window, and 97% of these events could be resolved with treatment modification, corticosteroids, or treatment discontinuation. In general, if sotorasib was combined with a PD-1 inhibitor, lower doses of sotorasib, and lead-in administration appeared to be more tolerable.

In terms of efficacy, the overall response rate was 29% in the total study population and the disease control rate was 83%. Among the 17 responders, the median duration of response was 17.9 months. Furthermore, the median overall survival was 15.7 months in the complete study population. After showing all relevant results of the CodeBreaK 100/101 study, Dr Li concluded that the combination of low-dose sotorasib as lead-in therapy, followed by combination with pembrolizumab, displayed the most promising data in terms of efficacy and safety, and will therefore be studied in first-line patients with advanced NSCLC in future studies.

3. **IMpower010: First interim OS analysis of adjuvant atezolizumab in NSCLC**

The first pre-specified interim overall survival (OS) analysis of the phase 3 IMpower010 trial displayed a trend towards an OS benefit for patients with stage II–IIIA, PD-L1-positive non-small cell lung cancer (NSCLC) if they were treated with adjuvant atezolizumab instead of best supportive care (BSC) [1].

The IMpower010 trial (NCT02486718) randomised 1,005 patients with completely resected, stage IB–IIIA NSCLC 1:1 to adjuvant atezolizumab or BSC. The primary analysis demonstrated a disease-free survival benefit of atezolizumab over BSC in the subset of participants with stage II–IIIA NSCLC and ≤2 cm PD-L1 tumour cells histologically (TC) (HR 0.66; 95% CI 0.50–0.88; P=0.004) [2]. These results led to the approval of adjuvant atezolizumab after resection and platinum-based chemotherapy in the USA, China, and Japan if patients had stage II–IIIA disease and ≥1% PD-L1 TC, and in the EU and other countries if patients had stage II–IIIA disease and ≥50% PD-L1 TC (excluding those with EGFR mutations or ALK rearrangements). Here, Dr Enriqueta Felip (Vall d’Hebron University Hospital, Spain) presented the results of the first OS interim analysis.

After a median follow-up of 45.3 months, a trend towards an OS benefit for participants with stage II–IIIA disease and ≥1% PD-L1 TC receiving atezolizumab was reported (HR 0.71; 95% CI 0.49–1.03). The OS rates were 76.8% and 67.5% for participants in the atezolizumab and the BSC arm, respectively. These results were consistent across subgroups. In contrast, the results did not show a treatment effect on OS in all randomised stage II–IIIA patients (HR 0.95; 95% CI 0.74–1.24) or in the intention-to-treat population (randomised stage IB–IIIA; HR 0.995; 95% CI 0.78–1.28; P=0.966). Furthermore, the authors executed separate OS analyses for stage II–IIIA patients (including EGFR/ALK-mutated patients) with ≥1–49% PD-L1 TC (HR 0.95; 95% CI 0.59–1.54) and with ≥50% PD-L1 TC (HR 0.43; 95% CI 0.24–0.78). Finally, the updated safety analysis did not reveal any new signals.

1. Felip E, et al. IMpower010: Overall survival interim analysis of a phase III study of atezolizumab vs best supportive care in resected NSCLC. PL03.09, WCLC 2022, Vienna, Austria, 06–09 August.

4. **Sub-lobar resection as new standard-of-care for cT1aN0 NSCLC?**

In a randomised phase 3 trial sub-lobar resection (SLR) was non-inferior to lobar resection in patients with peripheral cT1aN0 non-small cell lung cancer (NSCLC) and tumour sizes ≤2 cm. According to the authors, these results establish SLR as the standard-of-care for this subset of patients [1].

“Although lobar resection has been the standard-of-care for patients with cT1NO NSCLC for a long time, recent evidence showed that SLR may be non-inferior to lobar resection in a subset of patients [2],” explained Dr Nasser Altorki (Weill Cornell Medicine, NY, USA). The current phase 3 CALGB 140503 trial (NCT00499330) randomised 697 patients with peripheral T1aN0 NSCLC, with tumours ≤2 cm and without metastases to major hilar or mediastinal lymph nodes, 1:1 to lobar resection or SLR. Disease-free survival (DFS) was the primary outcome of the trial.

After a median follow-up of 7 years, SLR was non-inferior to lobar resection in terms of DFS (HR 1.01; non-inferior one-sided P=0.0176). Corresponding 5-year DFS rates were 63.6% for patients in the SLR group and 64.1% for patients in the lobar resection group. These results were consistent across subgroups. Similarly, overall survival rates did not differ between those who received SLR and those who underwent lobar resection (80.3% vs 78.9%; HR 0.95; one-sided P=0.014). A significant difference in forced expiratory volume in 1 second (FEV,

1. Altorki N, et al. Lobar or sub-lobar resection for peripheral clinical stage IA ≤ 2 cm non-small cell lung cancer (NSCLC): Results from an international randomized phase III trial (CALGB 140503 [Alliance]). PL03.06, WCLC 2022, Vienna, Austria, 06–09 August.

5. **NADIM: Risk of progression identified through RNA sequencing**

In individuals who did not achieve complete pathological response (CPR) from the phase 2 NADIM trial, an immune expression signature was identified that was associated with disease progression [1]. According to the authors, these results could help in the follow-up and management of patients with resectable non-small cell lung cancer (NSCLC).

The phase 2 NADIM trial (NCT03081689) investigated the safety and efficacy of neoadjuvant chemotherapy plus nivolumab in 46 patients with stage IIIA, resectable NSCLC. The positive results of this trial were previously published in The Lancet Oncology [2]. Through RNA
6. NADIM II: OS benefit of neoadjuvant nivolumab plus chemotherapy in NSCLC

Neoadjuvant nivolumab plus chemotherapy was superior to chemotherapy alone in patients with resectable stage IIIA–IIIB non-small cell lung cancer (NSCLC) in terms of progression-free survival (PFS) and overall survival (OS). The phase 2 NADIM II trial is therefore the first clinical trial to demonstrate an OS benefit of nivolumab plus chemotherapy over chemotherapy alone in this population [1].

The NADIM II trial (NCT03838159) randomised 90 patients with resectable stage IIIA–IIIB NSCLC 2:1 to neoadjuvant nivolumab plus chemotherapy or chemotherapy alone. The primary analysis showed a benefit of the experimental treatment over chemotherapy alone with regard to pathologic complete response rates (pCR; 36.8% vs 6.9%; 95% CI 1.70–36.51; P=0.0068) [2]. At WCLC 2022, Dr Mariano Provencio (Hospital Universitario Puerta de Hierro-Majadahonda, Spain) presented the findings.

Participants with STK11 mutations appeared to have an OS benefit if they were treated with the experimental treatment (n=31) instead of chemotherapy alone (n=22; median OS 15.0 vs 10.7 months; HR 0.48; 95% CI 0.26–0.88). According to Dr Provencio, these results confirm the superiority of neoadjuvant nivolumab plus chemotherapy over chemotherapy alone in patients with resectable stage IIIA–IIIB NSCLC.

1. Provencio M, et al. Progression free survival and overall survival in NADIM II study. PL03.12, WCLC 2022, Vienna, Austria, 06–09 August.

7. POSEIDON: Novel option for harder-to-treat subgroups of patients with metastatic NSCLC?

An exploratory analysis of the phase 3 POSEIDON trial showed that first-line treatment with tremelimumab plus durvalumab plus chemotherapy was efficacious in subgroups of patients with metastatic non-small cell lung cancer (NSCLC) that are usually associated with poor responses to immunotherapy, including those with KEAP1, KRAS, and STK11 mutations [1].

In patients with EGFR/ALK wildtype metastatic NSCLC, the combination of tremelimumab, durvalumab, and chemotherapy outperformed chemotherapy alone regarding progression-free survival (PFS) and overall survival (OS), primary results from the phase 3 POSEIDON trial (NCT03164616) displayed (n=1,003) [2]. However, it was unknown whether this combination treatment was beneficial for patients with STK11, KEAP1, or KRAS mutations. Therefore, Prof. Solange Peters (Lausanne University, Switzerland) and co-investigators performed an exploratory analysis of outcomes from the POSEIDON trial by mutational status.

Participants with STK11 mutations appeared to have an OS benefit if they were treated with the experimental treatment (n=31) instead of chemotherapy alone (n=22; median OS 15.0 vs 10.7 months; HR 0.56; 95% CI 0.56–1.03). Similarly, there was a clear trend towards an OS benefit of the experimental treatment over chemotherapy alone in those with KEAP1 mutations (median OS 13.7 vs 8.7 months; HR 0.43; 95% CI 0.16–1.25). However, the sample size of patients with KEAP1 mutations was small, with only 22 patients who

"We bring the Congress to the Physician"
followed the experimental treatment and 6 patients who received chemotherapy alone. Furthermore, patients with KRAS-mutated non-squamous cell histology had a longer median OS if they received tremelimumab, durvalumab, and chemotherapy (n=60) than if they received chemotherapy alone (n=53; median OS 25.7 vs 10.4 months; HR 0.56; 95% CI 0.36–0.88). PFS data and objective response rates demonstrated similar trends of efficacy in these subgroups.

According to Prof. Peters, this data suggests that the combination therapy of tremelimumab, durvalumab, and chemotherapy is as a potential first-line treatment for harder-to-treat subgroups of patients with metastatic NSCLC.


8. First DLL3-targeted therapy shows promise in SCLC

Tarlatamab, the first delta-like ligand 3 (DLL3)-targeted immune therapy, demonstrated encouraging anti-tumour activity and an acceptable safety profile in patients with heavily pre-treated small cell lung cancer (SCLC). The results of the current phase 1 trial initiated the development of the phase 2 DeLLphi-301 study, analysing tarlatamab in patients with SCLC who received at least 2 prior lines of therapy [1].

“The treatment options for patients with pre-treated SCLC are limited,” stated Prof. Hossein Borghaei (Fox Chase Cancer Center, PA, USA). “Therefore, novel therapies are urgently needed for these patients.” Tarlatamab is a bispecific T cell-engager immune therapy that binds both DLL3 and CD3 [2]. The first-in-human study of tarlatamab evaluated this agent in 106 patients with SCLC who progressed on at least 1 platinum-based chemotherapy regimen. Safety was the primary outcome of this trial, in which patients received tarlatamab doses of up to 100 mg per 2 weeks, intravenously administered.

“The safety profile was acceptable across the administered doses of tarlatamab,” commented Prof. Borghaei. Cytokine release syndrome (CRS) occurred in 53% of the patients; all but one of the cases were categorised as grade 1 or 2. In addition, CRS events occurred in cycle 1 and rarely recurred in following cycles. Pyrexia (38%), dysgeusia (23%), fatigue (22%), and nausea (20%) were other common adverse events (AEs), mostly being grade 1 or 2 events. Neurologic events (7%), mostly confusion, and neutropenia (9%) were the most frequently reported grade 3 events. In total, 4 patients discontinued the experimental treatment due to treatment-related AEs: 1 case of encephalopathy, 1 case of neurotoxicity, and 2 cases of pneumonitis.

The confirmed objective response rate was 23%, representing 2 complete responses and 22 partial responses. The median duration of response among those with a confirmed response was 13.0 months, with a median time to response of 1.8 months. Furthermore, the disease control rate was 52%, the median progression-free survival was 3.7 months, and the median overall survival was 13.2 months. Of note, 37% of the patients had a target lesion shrinkage of more than 30%. Following these results, the phase 2 DeLLphi-301 trial (NCT05060016) has been launched to further explore the possibilities of tarlatamab in patients with pre-treated SCLC.

1. Borghaei H, et al. Phase 1 updated exploration and first expansion data for DLL3-Targeted T-cell engager tarlatamab in SCLC (DeLLphi-300 Study). OA12.05, WCLC 2022, Vienna, Austria, 06–09 August.


Long-term follow-up data of the phase 3 KEYNOTE-604 trial displayed an ongoing clinically meaningful improvement in overall survival (OS) and progression-free survival (PFS) in patients with extensive-stage small cell lung cancer (ES-SCLC) if they received pembrolizumab plus etoposide/platinum (EP) chemotherapy instead of EP alone [1].

The KEYNOTE-604 trial (NCT03066778) compared the efficacy and safety of pembrolizumab plus EP with placebo plus EP in the first-line treatment of patients with ES-SCLC (n=453). A significant PFS benefit of the experimental therapy over the control therapy was reported in the published results of the primary analysis (HR 0.75; P=0.0023) [2]. Dr Charles Rudin (Memorial Sloan Kettering Cancer Center, NY, USA) presented the updated results with 3.5 years of additional follow-up.

After a median follow-up of 43.3 months, the median OS was 10.8 months in the experimental arm versus 9.7 months in the control arm (HR 0.76; 95% CI 0.53–0.93). The corresponding 3-year OS rates were 15.5% and 5.9%. Likewise, the PFS data demonstrated that the combination therapy was superior to the monotherapy (median PFS 4.8 vs 4.3 months; HR 0.70; 95% CI 0.57–0.85). Dr Rudin commented that patients had received at maximum 24 months of treatment, but that 6.9% of the patients in
the experimental arm was still progression-free at 36 months, distinguishing a subset of patients with very durable responses. Only 0.5% of the patients in the placebo arm was progression-free 3 years after randomisation. All in all, these results encourage the further exploration of pembrolizumab-based combinations in the ES-SCLC population.


10. Talazoparib plus temozolomide appears efficacious in ES-SCLC

The combination of talazoparib plus temozolomide reached the primary efficacy endpoint in a phase 2 study that tested this combination therapy in patients with extensive-stage small cell lung cancer (ES-SCLC). Since the safety profile was manageable, a phase 3 study is appropriate to confirm the clinical benefits of this treatment [1].

The current phase 2 trial (NCT03672773) evaluated the efficacy of the PARP inhibitor talazoparib in combination with temozolomide in 28 patients with relapsed or refractory ES-SCLC. Dr Jonathan Goldman (David Geffen School of Medicine at UCLA, CA, USA) presented the findings. An objective response rate (ORR) of 29% was needed to meet the primary endpoint.

The ORR was 39.3%, representing 11 patients with partial responses. The median time to response was 1.8 months, and the median duration of response was 4.3 months. In addition, the progression-free survival was 4.3 months and the overall survival was 11.9 months.

Haematologic adverse events (AEs) were commonly observed in this patient population. A total of 53.6%, 32.1%, and 60.7% of the participants experienced grade 3 or 4 anaemia, decreased neutrophil count, or decreased platelet count, respectively. The most frequently observed non-haematologic AEs were fatigue, nausea, diarrhoea, and anorexia, predominantly being grade 1 or 2 events. Dr Goldman mentioned that exploratory results are currently being investigated. “This is the second study to demonstrate the clinical benefits of a PARP inhibitor in combination with temozolomide in patients with SCLC,” added Dr Goldman [2]. “Therefore, a phase 3 trial is appropriate to confirm the safety and efficacy of this combination regimen in SCLC.”


11. Pembrolizumab plus lenvatinib performs well in MPM

The combination of pembrolizumab plus lenvatinib displayed promising clinical activity in the second-line treatment of patients with malignant pleural mesothelioma (MPM) in the phase 2 PEMMELA study. According to the authors, the combination therapy showed remarkable but manageable toxicity [1].

“There is no standard second-line treatment for patients with MPM,” explained Dr Li-Anne Douma (Netherlands Cancer Institute - Antoni van Leeuwenhoek, the Netherlands). The current phase 2 study (NCT04287829) evaluated the safety and efficacy of pembrolizumab and lenvatinib in 38 patients with recurrent MPM. The included patients received up to 35 cycles of the combination therapy and objective response rate (ORR) was the primary endpoint of the trial.

In total, 13 serious adverse events (AEs) were reported, 76% of the patients required at least 1 dose reduction or discontinued from lenvatinib, and 3 patients discontinued permanently from pembrolizumab. The most common any-grade AEs were fatigue (n=21), hoarseness (n=21), anorexia (n=16), and diarrhoea (n=15). Hypertension was the most common grade 3 AE (n=2) and 2 cases of grade 4 myositis were observed. Dr Douma commented that the safety profile was remarkable but manageable, and that the assessed combination therapy showed the highest in-trial ORR in the second-line treatment of MPM.

12. Early detection strategies in younger patients with lung cancer are urgently needed

Younger adults are relatively more frequently diagnosed with stage IV lung cancer than older adults, as was demonstrated by an American cohort study. Therefore, it is necessary to develop strategies that improve the early detection in younger patients who are ineligible for lung cancer screening [1].

Dr Alexandra Potter (Massachusetts General Hospital, MA, USA) and colleagues investigated the differences in lung cancer staging at diagnosis and overall survival (OS) times between younger and older adults since the introduction of lung cancer screening. For this purpose, the investigators used the SEER and US National Cancer Database to analyse all patients from 20 to 79 years old who were diagnosed with non-small cell lung cancer between 2010 and 2018. Patients were categorised into 10-year age intervals. In total, 1,328 patients were in the youngest age group (20–29 years) and 447,366 patients were in the oldest age group (70–79 years).

Carcinoid tumours were more frequently observed in younger patients (20–29: 58%; 30–39: 29%) than in older patients (70–79: 4%; P<0.001). Importantly, younger patients were relatively more likely to be diagnosed with stage IV lung cancer (20–29: 76%; 30–39: 70%) than older patients (60-69: 45%; 70-79: 40%). Since 2010, the rate of stage I versus stage IV diagnosing is developing favourably in the older age groups, likely due to lung cancer screening; a status quo is observed in younger patients. Dr Potter thus stated that strategies to increase the early detection of lung cancer in younger patients are urgently needed.

Additional findings included that in the younger age groups, patients were relatively more likely to be Black or Asian than White, compared with the older age groups (P<0.001). The 5-year OS rate was similar at 20% in patients ages 20–29 years, 27–28% in patients aged 30-69 years, and 24% in those aged 70–79 years.


---

13. Intensive co-located smoking cessation programme highly effective during lung screening

Co-located smoking cessation support during a lung health check leads to high abstinence rates in participants, especially when this 1-on-1 supportive care is continued for several months. In addition, women appear to benefit from additional supportive communication and individualised feedback, the randomised YESS trial indicated [1].

“The addition of tobacco treatment to lung cancer screening reduces deaths by an additional 14%, providing a fantastic opportunity to make real health gains [2],” argued Prof. Rachael Murray (University of Nottingham, UK). “However, it remains unclear what type of smoking cessation intervention will elicit the largest effect.” The current study invited 2,150 eligible participants who were scheduled for a lung health check to visit a co-located smoking cessation practitioner (SCP) through an opt-out system. Of the eligible participants, 1,609 agreed to receive ongoing support by the SCP and 1,003 were randomised into the YESS trial (NCT03750110).

In the control arm, participants received behavioural support plus pharmacotherapy (n=476), whereas participants in the intervention arm (n=527) received the support of the control arm plus personalised feedback and supportive communication. After 4 weeks, 3 months, and 12 months, smoking status was assessed (7-day validated point prevalence).

Abstinence from smoking was 16.5% after 4 weeks, between 30.0–33.6% after 3 months, and between 28.6–29.2% after 12 months of support by the SCP, with no significant differences between the control group and the intervention group. However, a significant interaction effect was observed for sex after 3 months; the intervention with personalised supportive care appeared to be more effective in women than in men (OR 1.70 vs 0.82; P=0.002); this effect was maintained at 12 months. Prof. Murray highlighted that cessation rates around 30% are high, which indicates the benefit of co-located and ongoing smoking support. Also, cessation rates are higher after 3 months than after 4 weeks, suggesting that participants may not be ready to quit smoking at the time of the lung health check, but that continued support by an SCP leads to high cessation rates in time.

14. Do we underestimate the effect of air pollution on lung cancer incidence?

Cumulative exposure to ambient air pollutants should be included in the assessment of individual lung cancer risk, according to the authors of a Canadian study evaluating the association between outdoor air pollution and lung cancer in non-smoking women. However, 20-year exposure data may not be enough to capture the true effects of air pollution [1].

"Non-smoking women have a higher risk of lung cancer than non-smoking men," stated Dr Renelle Myers (University of British Columbia, Canada). "Also, evidence indicates that air pollution is a major cause of lung cancer in non-smoking individuals [2]." The current study aimed to compare the cumulative 3-year versus 20-year exposure to particulate matter 2.5 (PM2.5) in newly diagnosed women with lung cancer who had never smoked. Data from a detailed residential history questionnaire was uploaded into a geographic information system that quantified PM2.5 with a high-spatial resolution global exposure model.

In total, 236 women with newly diagnosed lung cancer (46.7% EGFR-mutated) were analysed; 71.2% of the patients was Asian, 18.6% was White, and 10.2% was classified as 'Other'. Interestingly, 188 patients were born outside of Canada and 96 of them were born in Hong Kong/China. Among the foreign-born Canadians, the 3-year cumulative PM2.5 data showed that 2.1% of the participants had an exposure >10 μg/m³. This rate increased to 20.2% when observing the 20-year cumulative PM2.5 data. Of note, an effect of 3-year cumulative PM2.5 exposure on the incidence of EGFR mutations was observed (P=0.049), but this effect was not preserved when looking at the 20-year data (P=0.188).

Based on the current results, Dr Myers argued that the 20-year cumulative PM2.5 exposure data may underestimate the effects of PM2.5 during childhood and adolescence, given the fact that the average age of the included patients was 66.1 years and that most of the patients were foreign-born Canadians, raised in highly polluted areas of the world.


15. Interventions needed to address sexual health in lung cancer

Sexual dysfunction is prevalent among women with lung cancer, demonstrated an observational study evaluating sexual health in these patients. The authors concluded that sexual health should be incorporated into thoracic oncology care, and that tailored interventions are needed to address this issue [1].

"Lung cancer has been associated with sexual dysfunction," said Dr Narjust Florez (Dana Farber Cancer Institute, MA, USA) [2]. "However, these data mostly stem from the pre-immune checkpoint inhibitor-era, and sexual health in lung cancer is therefore a currently understudied topic." Dr Florez and colleagues assessed the prevalence of sexual dysfunction in women with lung cancer via a validated online questionnaire. The observational SHAWL study included 249 participants, with ages ranging from 29–84 years. Moderate to severe sexual dysfunction was reported in 77% of the participating women. In addition, 59% of the participants who had sexual activity in the last 30 days reported issues with vaginal dryness and 26% of all responders noted complaints of vaginal pain or discomfort during sexual activity. Furthermore, there was a marked difference in decreased sexual interest before and after the diagnosis of lung cancer (15% vs 31%; P<0.001). Finally, reasons for a reduced satisfaction of patients with their sex life included fatigue (40%), sadness/unhappiness (28%), issues with partner (22%), and shortness of breath (15%).

"We bring the Congress to the Physician"