Patient and Physician Perspectives on Attributes of Perioperative Treatments in Potentially Resectable, Non-metastatic, Non-small Cell Lung Cancer

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Background

- Non-small cell lung cancer (NSCLC) is the primary pathological type of lung cancer, constituting roughly 80-85% of all lung cancer diagnoses.[1]
- Early-stage NSCLC has traditionally been treated with surgery aimed at curative resection.[1]
- Recently, the treatment landscape of resectable NSCLC has evolved with the approval of immunotherapy-based regimens in neoadjuvant, adjuvant, or perioperative settings.[2]
- Neoadjuvant immunotherapy is now an established new standard of care for eligible patients with resectable NSCLC.[3]
- However, choosing therapies is a complex decision for patients and their physicians, as different treatment pathways are associated with varied outcomes.

Objective

- This study evaluated perspectives of patients with resectable NSCLC and treating physicians to understand preferences around perioperative NSCLC treatments and help facilitate shared decision-making.

Methods

- This was a qualitative, non-interventional, cross-sectional study involving one-to-one, semi-structured teleconference interviews conducted with each participant from March 2024 to June 2024.
- Participants were adults in the US, Germany, or Japan who were either:
  - Patients diagnosed with resectable NSCLC (stage II to IIIB, as defined by the AJCC Cancer Staging Manuel, 8th Edition) and no other malignancies.
  - Physician specializing in oncology, thoracic surgery, pulmonology, or radiology who had treated ≥3 new patients with resectable NSCLC in the past year.
- During interviews, participants discussed NSCLC diagnosis, symptoms, current treatments, and treatment attributes.
- Participants also completed two interview tasks:
  - In task A, participants ranked common clinical trial efficacy endpoints and side effects by importance.
  - In task B, participants completed a choice scenario designed to elicit preferences on treatment attributes such as preventing recurrence, time until surgery, likelihood of surgery cancellation, and chance of serious side effects (**Figure 1**).
- Qualitative data were analyzed via framework analysis using a rigorous and accelerated data reduction (RADaR) approach.

Methods (continued)

Figure 1. Choice scenario (Task B)

Attributes [a]	Treatment A	Treatment B	Treatment C
Type of treatment	IO plus CTx before surgery, and IO after surgery	Straight to surgery	IO plus CTx before surgery, and IO after surgery
Chance of cancer recurrence three years after surgery The likelihood of cancer recurrence within three years following surgery	43%	58%	50%
Time until surgery Immunotherapy and chemotherapy before surgery will delay when your surgery happens.	Surgery in 3 months	Surgery in 1 month	Surgery in 4 months
Probability that surgery will be cancelled This may occur because your cancer progresses too much for surgery, or you are not well enough for surgery.	20%	5%	10%
Probability of serious treatment side effects from immunotherapy or chemotherapy Side effects from immunotherapy include neutropenia, rash, pneumonitis, serious enough to impact your daily activities and require additional treatments to manage.	36%	0%	18%
Probability of serious treatment side effects from surgery Side effects from surgery include urinary retention, lung issues such as leakage or pneumonia, or heart issues such as arrhythmia.	10%	15%	5%
Please choose your most preferred option	○	○	○
Please choose your second most preferred option	○	○	○

[a] Choice task attributes were informed by a targeted literature review of available clinical data. Percentages denoted the hypothetical probability of the specified event occurring for each treatment option (A, B, or C).

Abbreviations: CTx, chemotherapy; IO, immunotherapy.

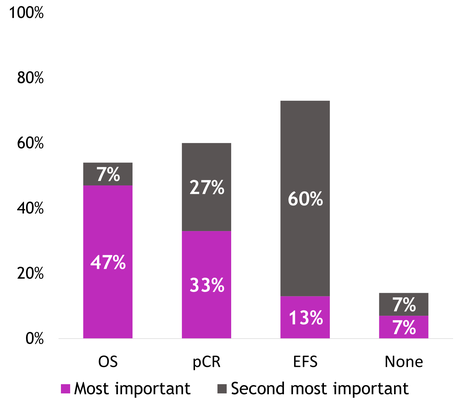
Results

- 15 patients with resectable NSCLC and 40 treating physicians were recruited (**Table 1**).
- When ranking endpoints in task A, overall survival (OS) was found to be the most important endpoint for both patients (n=7, 47%, **Figure 2**) and physicians (n=30, 75%, **Figure 3**).
- Pathologic complete response (pCR) was found to be the next most important clinical endpoint for patients (n=5, 33%, **Figure 2**), while disease-free survival was next most important for physicians (n=4, 10%, **Figure 3**).

Results (continued)

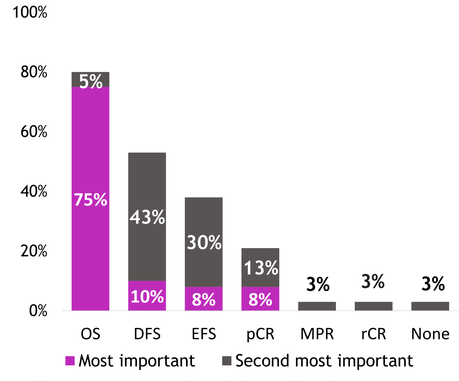
- For the choice scenario in task B, 11 (73%) patients and 36 (90%) physicians chose a perioperative regimen over surgery alone.
- Preventing recurrence at three years was the most important treatment attribute for patients (n=9, 60%) and physicians (n=30, 75%) (**Figure 4**).
- Time to surgery and probability of serious side effects of immunotherapy or chemotherapy were next most important for patients (each n=2, 13%), while probability that surgery will be cancelled due to neoadjuvant therapy was next most important for physicians (n=5, 13%) (**Figure 4**).
- Qualitative data aligned with quantitative ranking and choice data across both tasks (**Table 2**).

Figure 2. Patient endpoint rankings (n=15)



To simplify the task and highlight differentiable aspects of endpoints, patients ranked the importance of OS, pCR, and EFS only.
Abbreviations: EFS, event-free survival; OS, overall survival; pCR, pathologic complete response.

Figure 3. Physician endpoint rankings (n=30)



Physicians were asked to rank important endpoints out of OS, DFS, EFS, pCR, MPR, and rCR. Abbreviations: DFS, disease-free survival; EFS, event-free survival; MPR, major pathologic response; OS, overall survival; pCR, pathologic complete response; rCR, radiologic complete response.

Table 1. Participant characteristics

Characteristic	Patients (n=15)	Physicians (n=40)
Male, n (%)	8 (53)	38 (95)
Country, n (%)		
United States	5 (33)	10 (25)
Germany	5 (33)	10 (25)
Japan	5 (33)	20 (50)
Age (n, %)		
35-45 years	5 (33)	NR
46-55 years	6 (40)	NR
≥56 years	4 (27)	NR
Living environment, n (%)		
Living with others	8 (53)	NR
Living alone	7 (47)	NR
Current NSCLC treatment, n (%)		
CTx	7 (47)	NA
CTx + IO	6 (40)	NA
None	2 (13)	NA
Cancer stage, n (%)		
I [a]	3 (20)	NA
II	5 (33)	NA
III	7 (47)	NA
Practice setting, n (%)		
Academic/university hospital	NA	18 (45)
Community hospital	NA	16 (40)
Group practice - multi-specialty	NA	6 (15)
Medical specialty, n (%)		
Thoracic surgery	NA	15 (38)
Pulmonology	NA	11 (27)
Oncology	NA	8 (20)
Radiology	NA	6 (15)

[a] Due to recruitment issues, three stage I patients outside of the AJCC stage II to IIIB criteria were included.
Abbreviations: CTx, chemotherapy; IO, immunotherapy; NA, not applicable; NR, not reported; NSCLC, non-small cell lung cancer.

Figure 4. Most important treatment attributes

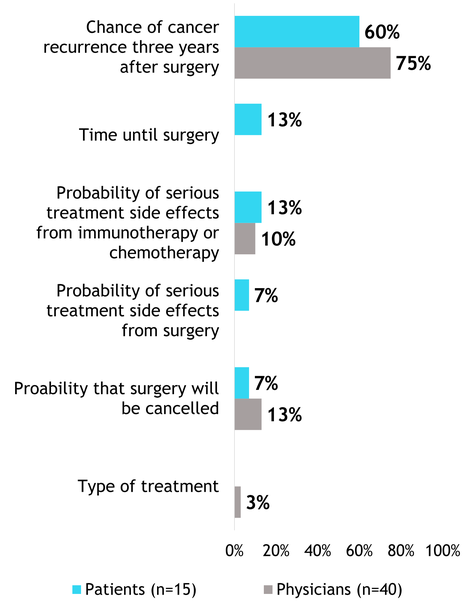


Table 2. Exemplar Quotes

Type	Topic	Quote
Patient (US)	Task A: Endpoint ranking; Primacy of overall survival as an endpoint	"I would say the most important here is overall survival, that first one because it's gonna help me live and live longer."
Physician (US)	Task A: Endpoint ranking; Primacy of overall survival as an endpoint	"[…] just because you took care of the cancer doesn't mean they're gonna live longer. […] that's why the overall survival is the most important."
Patient (Germany)	Task B: Choice scenario; Willingness to accept cancellation and side effect risks to prevent recurrence at three years	"[…] cancer recurrence is the lowest with 43%. […] The probability of cancellation is also quite low, still manageable or something. But I would accept these side effects, which are the highest here."
Physician (Japan)	Task B: Choice scenario; Importance of disease-free survival	"I think early-stage treatment ultimately aims to prevent recurrence, so I prioritized DFS."

Results summary: Both patients with non-small cell lung cancer and treating physicians indicated overall survival as the most important endpoint (**Figure 2**, **Figure 3**) and preventing three-year recurrence as the most important treatment attribute (**Figure 4**). Patients also valued pathologic complete response more highly than physicians did and showed less concern about the risk of surgery cancellation.

Conclusions

- Patients and physicians agreed on the most important treatment endpoint and attribute, with both favoring perioperative treatment over surgery alone to achieve these goals.
- OS was the most important endpoint for both patients and physicians; however, patients valued pCR more than physicians did, underscoring the relevance of this endpoint alongside OS.
- Preventing recurrence was the most important treatment attribute for both groups; however, patients were less concerned about the risk of surgery cancellation than physicians were.
- Findings underscore the need for shared decision-making that incorporates patient and physician perspectives and priorities to select the best perioperative treatment for the patient.
- These qualitative findings will be confirmed in a currently ongoing quantitative study.

References

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