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MyChoice: Global study evaluating patient & physician treatment preferences in first-line metastatic common *EGFR*-mutated NSCLC

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Key Takeaway

While survival is the top priority for both patients and HCPs, significant differences between how patients and HCPs weigh other attributes (eg, treatment resistance, risk of skin effects) highlight the importance of shared decision-making to ensure treatment selection aligns with patients' long-term treatment goals

Conclusions

OS was the most important attribute for both patients and HCPs, followed by risk of moderate-to-severe skin effects and treatment resistance

Patients place greater relative importance on preventing treatment resistance compared with HCPs, which highlights the need for early conversations regarding treatment sequencing; patients are also more willing than HCPs to accept greater skin AEs to ensure a treatment approach that supports a longer-term plan

Both IV-based modes of administration (oral tablet + IV chemotherapy; oral tablet + IV non-chemotherapy) were least preferred, potentially reflecting treatment burden associated with in-hospital administration, travel, and caregiver dependence

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Introduction

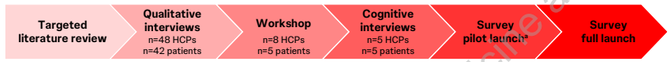
- Third-generation epidermal growth factor receptor (EGFR)–tyrosine kinase inhibitor regimens (eg, osimertinib monotherapy, osimertinib + chemotherapy, and amivantamab + lazertinib), have demonstrated first-line (1L) efficacy in *EGFR*-mutated metastatic non-small cell lung cancer (NSCLC)[1–5]; however, disease progression and development of resistance are inevitable[6–8]
- Currently available 1L regimens differ in their treatment characteristics, including route of administration, benefit-risk profile, resistance patterns, and associated safety profile[1–8]
- As treatment options for *EGFR*-mutated NSCLC continue to expand, understanding patient priorities is key to informing shared decision-making
  - However, these priorities remain poorly understood
- We examined patient treatment priorities, including treatment preferences and goals, and their extent of alignment with healthcare providers (HCPs) in selecting among multiple options in 1L common *EGFR*-mutated advanced or metastatic NSCLC

Methods

- MyChoice is an ongoing global, non-interventional, cross-sectional, double-blinded study examining both patient and HCP preferences and treatment goals in Australia, Brazil, China, France, Germany, Italy, Japan, Portugal, Sweden, United Kingdom, and United States
  - This presentation reports interim data, as patient accrual is ongoing; final data will be published after recruitment is complete
- A discrete choice experiment (DCE) was utilized to assess patient and HCP preferences for attributes of hypothetical 1L treatment options in 1 comprehensive survey (**Figure 1**)
  - These attributes were informed by published literature, a patient/HCP steering committee, and qualitative research
  - The DCE presented participants with a series of hypothetical choice scenarios, each showing a set of competing treatment alternatives that are described by their attributes and varying attribute levels; patients and HCPs are required to select their preferred treatment in each scenario or opt out by selecting "neither treatment"
  - Treatment attributes included overall survival (OS), risk of treatment resistance, mode of administration, out-of-pocket cost (US/China only), and risk of moderate-to-severe adverse events (AEs), namely skin-related AEs, nausea and vomiting, fatigue, and diarrhea (**Figure 2**)
- Random parameter logit models were used to evaluate choice behavior by estimating relative attribute importance (RAI), quantifying acceptable trade-offs, and simulating patient and HCP preferences
- DCE model parameter estimates were used to simulate the projected preference shares of different treatment profiles and quantify alignment between patients and HCPs

Figure 1: DCE quantitative survey (A) instrument development and (B) methodology

A.



B.

Survey format: ~30-minute online survey
Sample size: 223 patients and 758 HCPs
Eligibility criteria:
- **Patient:** ≥18 years of age, locally advanced or metastatic c*EGFR*m NSCLC, and awaiting/receiving 1L or 2L treatment
- **HCP:** In clinical practice for ≥3 years as an oncologist or pulmonologist who is directly responsible for the treatment of patients with c*EGFR*m NSCLC

Note: The Pearl IRB, an independent institutional ethics review board for human subject research, has formally reviewed this noninterventional study and deemed it exempt from ongoing IRB oversight.
*The HCP pilot consisted of ~10% of the total target in each country. The patient pilot consisted of n=30 patients in China and the United States due to the staggered patient recruitment approach (ie, patient recruitment did not kick-off at the same time in all countries).
1L, first-line; 2L, second-line; cEGFRm, common epidermal growth factor receptor mutant; DCE, discrete choice experiment; HCP, healthcare provider; IRB, institutional review board; NSCLC, non-small cell lung cancer.

Results

Study population

- This interim analysis included 223 patients and 758 HCPs
- Among patients, gender was balanced (51% female) and 76% were ≥55 years of age
  - Most (77%) patients lived in a metropolitan/urban area
  - 27% and 46% of patients had an Eastern Cooperative Oncology Group performance status score of 0 or 1, respectively
  - 56% of patients were awaiting or receiving 1L treatment at the time of the survey
- Most HCPs primarily practiced in metropolitan/urban areas (91%), with the most common practice setting being a public hospital/clinic (42%)

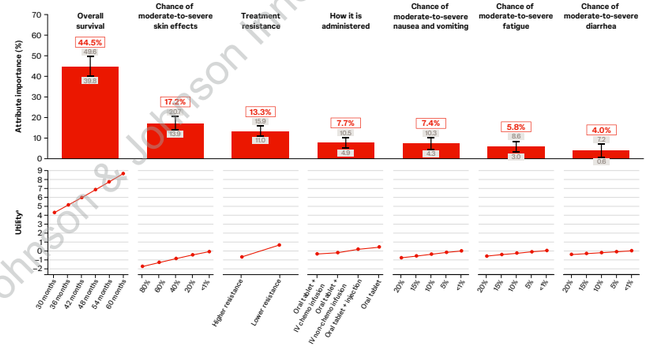
Relative attribute importance

- OS was the most important attribute for both patients (44.5% RAI; **Figure 3**) and HCPs (55% RAI; **Figure 4**), followed by chance of moderate-to-severe skin effects (17% and 22%, respectively)
  - Notably, the impact of skin-related effects is highly influenced by the range of risk percentages included in the attribute levels
- Treatment resistance carried greater relative importance for patients versus HCPs (13% vs 7% RAI, respectively)
- Intravenous (IV)-based modes of administration (oral tablet + IV chemotherapy; oral tablet + IV non-chemotherapy) were least preferred compared with an oral tablet or an oral tablet in combination with an injection

Preference share

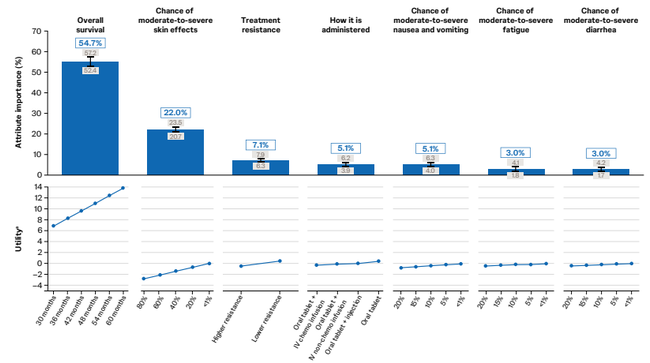
- A preference share scenario comparing 2 hypothetical treatment profiles that differed only in levels of resistance and skin AEs was developed to assess potential differences in patient and HCP treatment preferences (**Table 1**)
- Patients were more willing than HCPs to tolerate moderate-to-severe skin AEs to achieve a lower risk of treatment resistance
- As the risk of moderate-to-severe skin effects increased, preference share declined in both groups; however, patients were more likely to accept a treatment profile with higher skin effects for lower resistance, which resulted in an increased gap between patient and HCP preferences (**Figure 5**)
  - Patients maintained a preference for the treatment profile associated with lower treatment resistance across nearly all skin AE risk levels evaluated, with preference share falling below 50% only at the highest levels of moderate-to-severe skin effects

Figure 3: RAI based on patient preferences



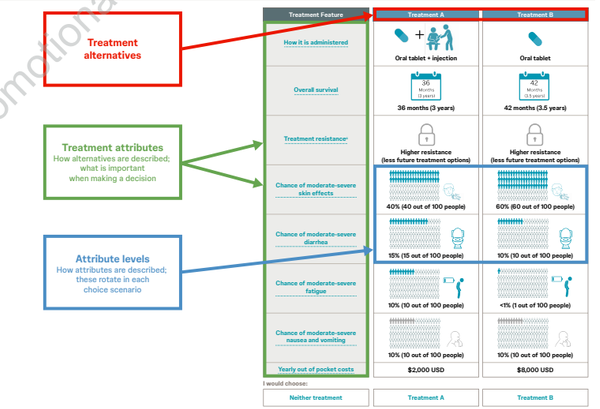
Note: All attributes were statistically significant, meaning they all had an impact on treatment decisions.
*Utility refers to the degree of preference for each level within an attribute (eg, overall survival duration of 60 months is more desirable than 30 months). The slope of the line quantifies the level of preference within the attribute.
Chemo, chemotherapy; IV, intravenous.

Figure 4: RAI based on HCP preferences



Note: All attributes were statistically significant, meaning they all had an impact on treatment decisions.
*Utility refers to the degree of preference for each level within an attribute (eg, overall survival duration of 60 months is more desirable than 30 months). The slope of the line quantifies the level of preference within the attribute.
Chemo, chemotherapy; HCP, healthcare provider; IV, intravenous.

Figure 2: Example DCE scenario presented to patients[a,b]



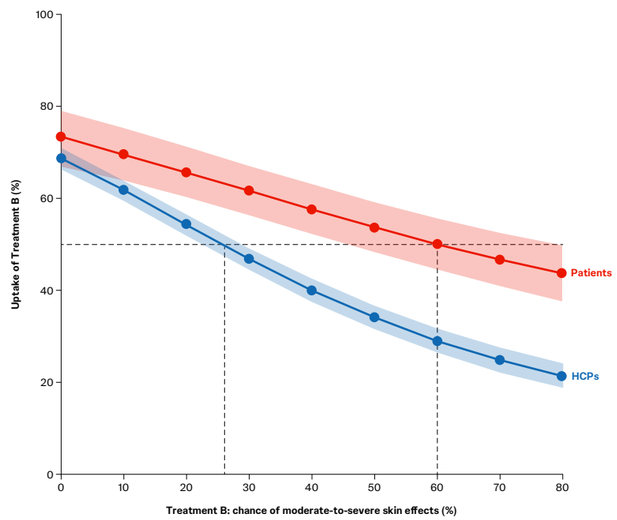
Note: Leading up to the first DCE scenario, patients are shown comprehensive instructions, including full attribute descriptions, and are required to complete 3–4 test questions to confirm comprehension.
[a]The final DCE design consisted of 120 choice sets each, split up into 12 blocks, so that each patient was presented with 10 scenarios, plus 1 dominant scenario for quality control purposes (dominant scenario not included in the analysis). [b]Patients in the United States and China were shown an additional "out-of-pocket cost" attribute. Cost was removed from the RAI calculation and constrained to $0 in the preference share simulations to allow presentation of a single global model; however, the presence of cost as an attribute in the US and Chinese surveys may have influenced how those respondents weighed the other attributes. Results must be interpreted within this context. [c]Treatment resistance was defined to patients as, "Cancer treatments will stop working over time because the cancer cells find ways to adapt or 'resist' the medicine. When resistance happens, it can make the cancer harder to treat and limit future therapy options. Each treatment has its own resistance profile: Some have a higher chance of complex resistance, while other treatments may delay resistance or make it less complex – helping to preserve more treatment options for the future." HCPs were shown the definition. "Tumors will develop resistance to EGFR-targeted therapies over time through mechanisms such as *EGFR*-dependent mutations, *MET* amplification, or other bypass pathways. Some treatment regimens are associated with a higher likelihood of acquired complex resistance, while others may delay resistance onset or reduce its complexity – this may preserve future therapeutic options and improve long-term disease management."
DCE, discrete choice experiment; HCP, healthcare provider; RAI, relative attribute importance; USD, United States dollar.

Table 1: Preference share scenario[a]

Treatment feature	Treatment A	Treatment B
How it is administered	Held constant	Held constant
Overall survival	Held constant	Held constant
Treatment resistance	**Higher resistance**	**Lower resistance**
Chance of moderate-to-severe skin effects	**1%**	**Varied: 0%–80%**
Chance of moderate-to-severe diarrhea	Held constant	Held constant
Chance of moderate-to-severe fatigue	Held constant	Held constant
Chance of moderate-to-severe nausea and vomiting	Held constant	Held constant

[a]Treatment B versus Treatment A and opt-out. Treatment A is held fixed; Treatment B's skin effects vary from 0%–80% in 10-point steps.

Figure 5: Uptake of Treatment B by chance of moderate-to-severe skin effects[a]



[a]Lines show mean preference share for Treatment B; shaded bands show the 95% confidence intervals.
HCP, healthcare provider.

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