EGFR mutation testing and oncologist treatment choice in advanced NSCLC

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elcc

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Organisers IASLC International Association for the Study of Lung Cancer; ESMO GOOD SCIENCE BETTER MEDICINE BEST PRACTICE European Society for Medical Oncology

Partners ESTRO European Society for RADIOTHERAPY & ONCOLOGY; European Society of Thoracic Surgeons 1993; etop Information | Research

Disclosures

- **James Spicer** (presenter), FRCP, PhD, Guy's Hospital, UK
- The results presented are based on an online survey funded by Boehringer Ingelheim and undertaken by Kantar Health. Kantar Health provided editorial support in the development of the slide presentation
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Introduction

- First line use of 3 tyrosine kinase inhibitors (TKIs) is associated with PFS benefit in advanced NSCLC with activating *EGFR* mutation (EGFR+)[1]
- IASLC guidelines recommend *EGFR* mutation testing should be performed at diagnosis of advanced NSCLC (with adenocarcinoma component), and results should guide treatment decisions[2]
- Evidence suggests that implementation of these and similar guidelines may be variable[3,4]
- We conducted a survey of 562 treating physicians in 10 countries

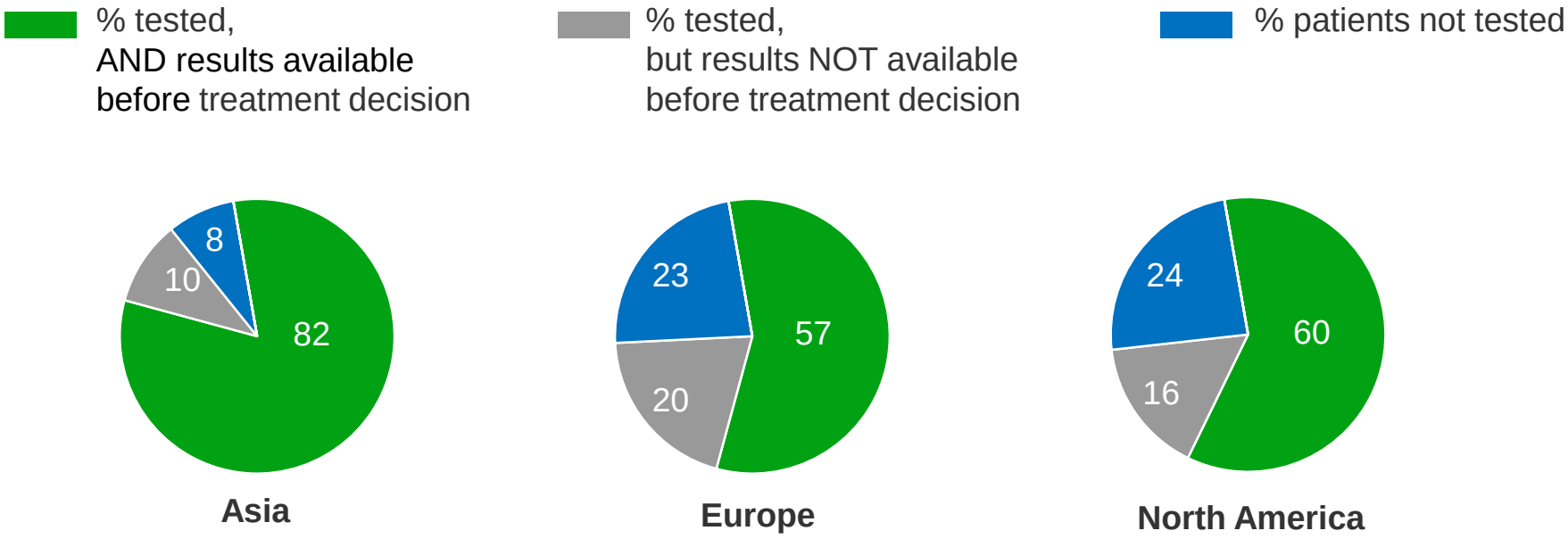
1. Yang J, *et al*. *Lancet Oncol* 2015;16 (2):141–151
2. Lindeman NI, *et al. J Thorac Oncol* 2013; 8:823-59
3. Yatabe Y, *et al. J Thorac Oncol* 2015;10 (3):438-45
4. Ellison G, *et al. J Clin Pathol* 2013;66:79–89

Methodology and sample

- Questionnaire designed to assess the prevalence of mutation testing, attitudes and barriers to testing, and how results affect choice of therapy
- The respondents were not informed about the sponsor, and the questionnaire contained no information about individual products

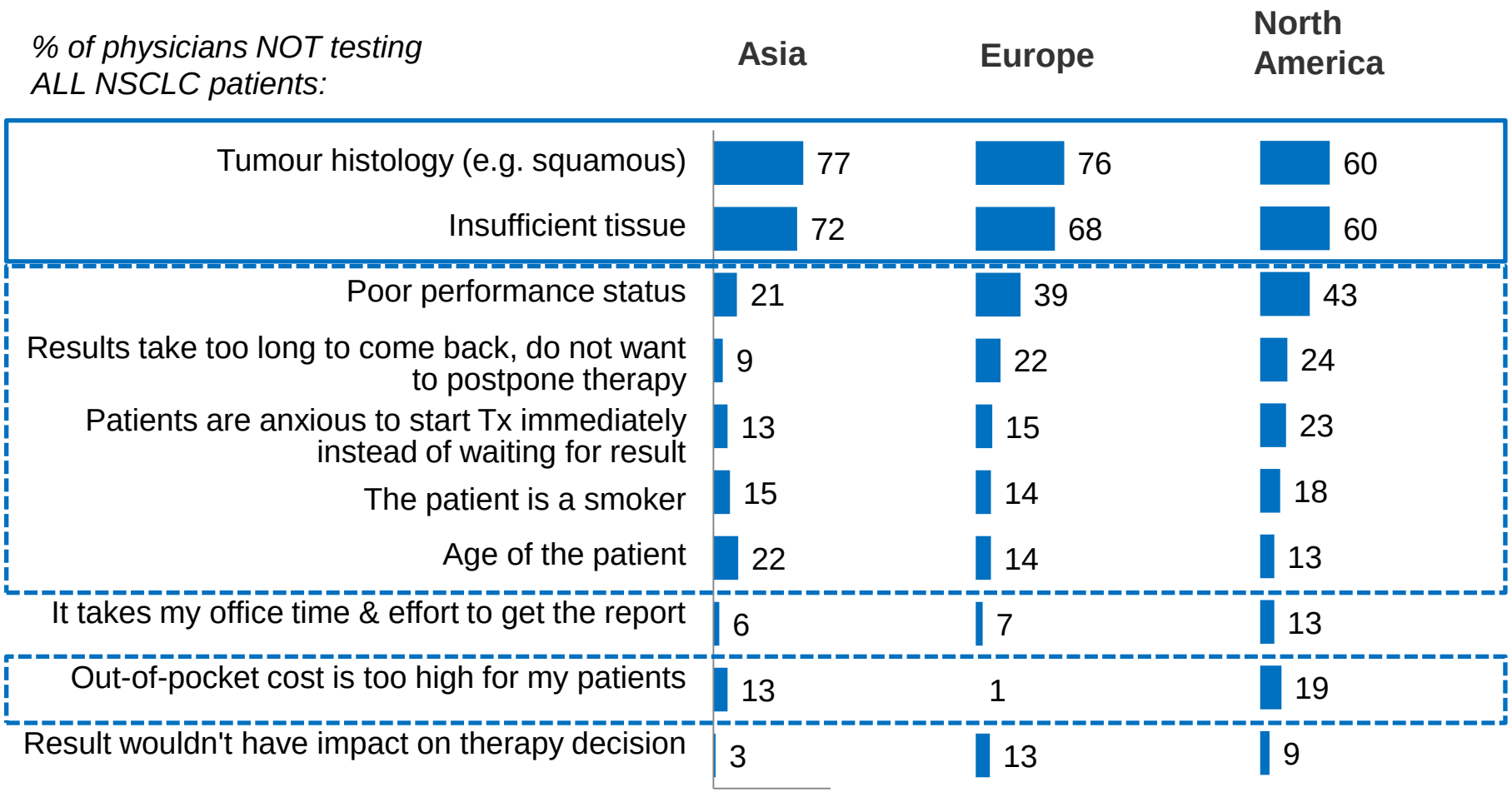
	Quantitative online questionnaire; 10 minutes; 14 questions													
	Physicians treating advanced NSCLC patients with systemic therapy													
Country	**Total**	*N Ame-rica*			*Europe*						*Asia*			
Sample size: n=	**562**	***161***	**120**	**41**	***251***	**50**	**50**	**50**	**50**	**51**	***150***	**50**	**50**	**50**
Oncologists: n=	412	*161*	120	41	*205*	34	20	50	50	51	*46*	1	25	20
Respiratory physicians: n=	141	-	-	-	*46*	16	30	-	-	-	*95*	40	25	30
Thoracic Surgeons: n=	9	-	-	-	-	-	-	-	-	-	*9*	9	-	-
Average number of stage IIIb/IV NSCLC patients/ 3 months	**59**	***58***	**56**	**71**	***77***	**72**	**69**	**69**	**59**	**106**	***41***	**34**	**86**	**30**

EGFR mutation testing before starting first line therapy



- In Asia, significantly **more patients are tested for *EGFR* mutation AND more test results are available** prior to first line treatment, compared to Europe and USA
- In Europe, **26% of patients tested for *EGFR* mutations do NOT have results available** prior to deciding on first line treatment (21% in N America; 11% in Asia)

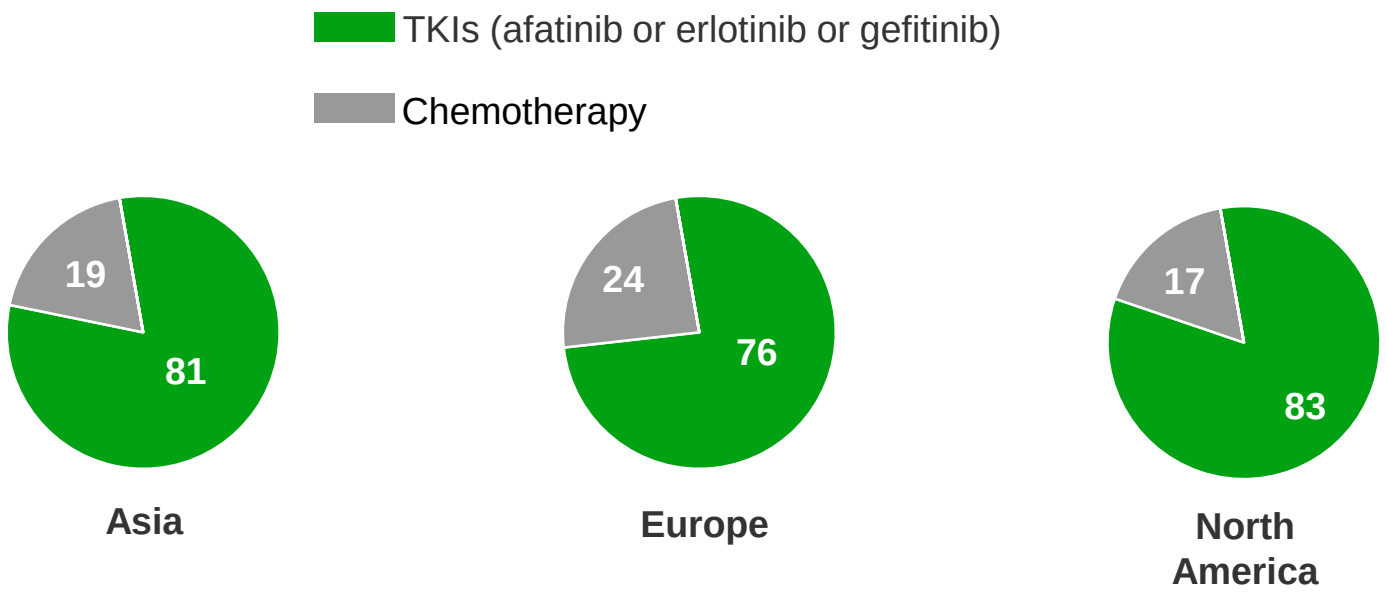
Reasons for NOT testing ALL patients prior to first line therapy



Reasons not all patients have an *EGFR* result

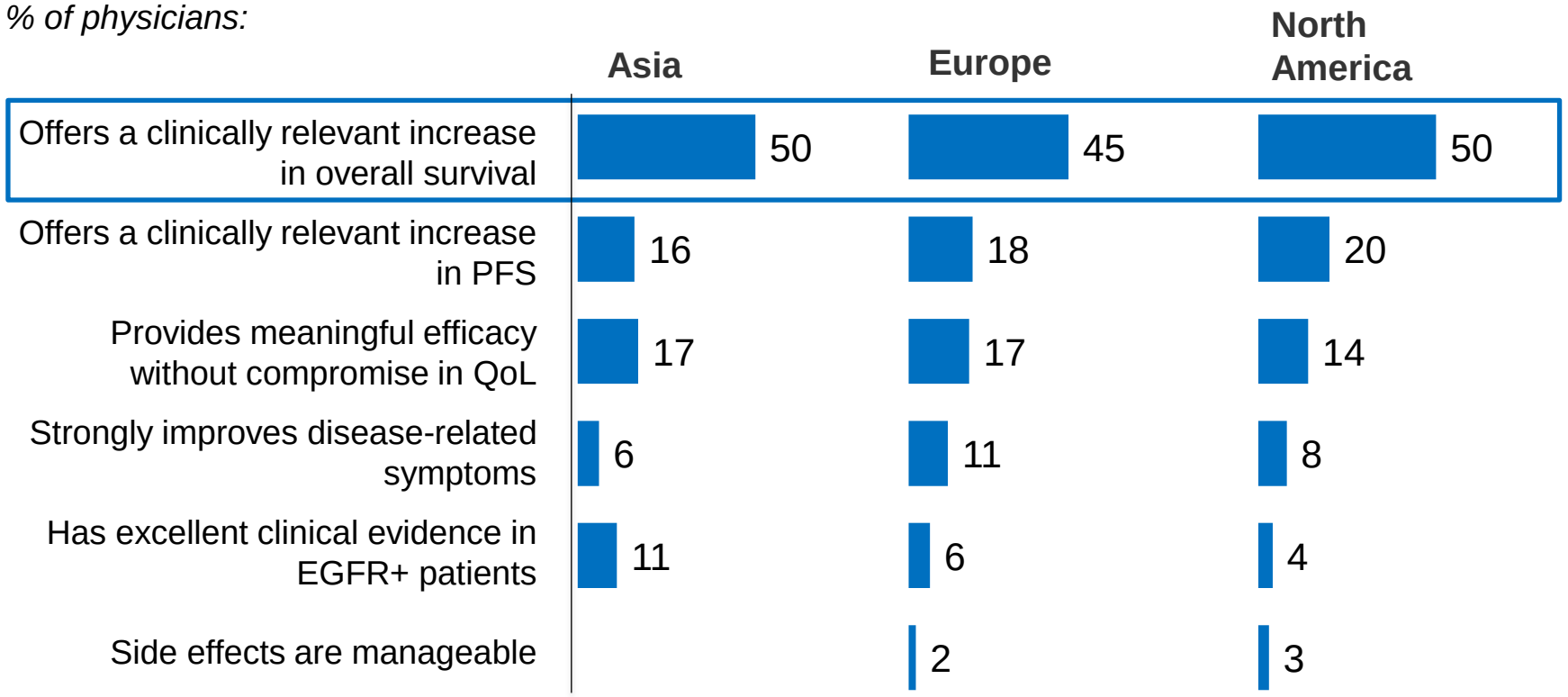
- *EGFR* mutation testing practices vary between regions
- There is incorrect implementation of international guidelines in selecting for *EGFR* testing
  - e.g. using smoking status as selection factor for testing
- Even when tested, results are not available in time to guide treatment decisions for more than 1 in 4 European patients
- Practical barriers still need to be addressed
  - turnaround time
  - cost

First line treatment choice in EGFR+ advanced NSCLC



- Physicians in North America and Asia offer significantly more first line TKIs than in Europe
- A significant minority of EGFR+ patients receive **chemotherapy** first line

Most important factor in first line treatment choice



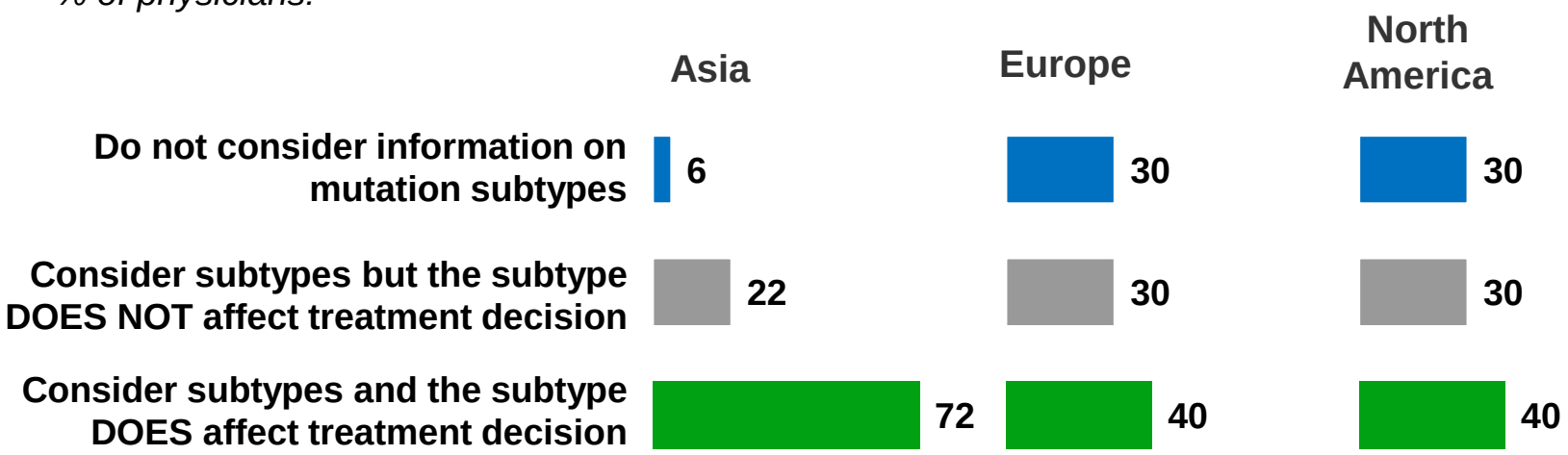
First line treatment choice and rationale

- This survey indicates that in some countries many EGFR+ patients are still treated with chemotherapy first line
  - even when available, use of mutation status to inform treatment decision is variable
- The reasons for this need to be understood
  - lack of timely availability of results may contribute
- Especially relevant given recent data showing OS benefit compared to chemotherapy for specific TKI treatment matched to mutation type[1]

1. Yang J, *et al. Lancet Oncol* 2015;16 (2):141–151

Use of information on *EGFR* mutation subtypes (del19, L858R) for treatment decisions

% of physicians:



- In N America and Europe, information about *EGFR* mutation subtypes **<u>does not</u> affect treatment decision for 60% of physicians**
- By contrast, **72% in Asia <u>do</u> take mutation subtypes into account**

Conclusions

- *EGFR* mutation testing and treatment practices vary across regions.
- There is incomplete implementation of international guidelines for identification of EGFR+ NSCLC
- The reasons why many patients with EGFR+ tumours receive first line chemotherapy need to be understood
- Many patients tested for *EGFR* mutation start treatment before a result is available
- In Europe and N America most physicians do not consider information on *EGFR* mutation subtypes, despite recent OS data for exon 19 deletions