

AN INTERNATIONAL SURVEY OF ESTS MEMBERS

Marco Chiappetta¹, Giacomo Cusumano², Francesco Guerrera³, Filippo Lococo⁴, Ludovic Fournel⁵, Giorgio Treglia⁶, Isabella Sperduti⁷, Carolina Sassorossi⁴, Teresa Ferrazzo¹, Francesco Givigliano¹, Andre Billè⁸, Hasan Batirel⁹, Alessandro Bertani¹⁰, Marcin Ostrowski¹¹

1. Department of Health Sciences, University “Magna Graecia”, Catanzaro, Italy, 2. Department of Thoracic Surgery Unit, Policlinico-San Marco Hospital, University of Catania, Catania, Italy; Department of General Surgery and Medical Surgical Specialties (CHIRMED), University of Catania, Catania, Italy.3. UOC Di Chirurgia Toracica,Ospedale le Molinette,Torino,Italy. 4. UOC di Chirurgia Toracica Fondazione Policlinico Universitario A. Gemelli IRCCS,Roma,Italy 5. Thoracic Surgery Department, Cochin Hospital, Université Paris Cité, APHP, Paris, France 6.Division of Nuclear Medicine, Ente Ospedaliero Cantonale, Bellinzona, Switzerland. 7.UOSD Clinical Trial Center, Biostatistic And Bioinformatic, Irccs – Regina Elena National Cancer Institute – Rome. 8. Department of clinical oncology,Guys Cancer Centre,London 9.Marmara University School of Medicine, Istanbul, Turkey 10. Department of Thoracic Surgery and Lung Transplantation, University of Enna “Kore” and IRCCS ISMETT, Palermo, Italy.11. Department of Thoracic Surgery, Medical University of Gdansk, M. Skłodowskiej-Curie Gdańsk, Poland.

Correspondence: marcokiaps@Hotmail.it, marco.Chiappetta@unicz.it

INTRODUCTION

The ^18F-FDG-PET role in the evaluation of small or subsolid pulmonary nodules(SPNs) remains controversial. While PET is a cornerstone of lung cancer staging, its diagnostic accuracy significantly diminishes for lesions under 2 cm or subsolid nodules, often leading to heterogeneous management strategies. Current international guidelines provide limited specific recommendations for the use of PET in the sub-2cm category (cT1a-b), leaving much to the surgeon's discretion. This survey, conducted under the auspices of the European Society of Thoracic Surgeons(ESTS), aimed to map the current indications for PET among thoracic surgeons and, crucially, to assess the ‘clinical weight’ of PET findings in shaping surgical decision-making.

METHODS

A cross-sectional, 19-item electronic questionnaire was developed and distributed to the ESTS membership from December 2025 to January 2026. The survey was structured into four domains: I)respondent demographics and institutional characteristics; II)institutional accessibility to FDG-PET/CT; III)clinical indications for PET in various SPN scenarios; IV)the impact of PET-derived SUVmax and N-status on surgical decision-making. Data analysis was performed.

RESULTS

A total of 146 thoracic surgeons completed the survey. Most responders(60.9%) reported>10years of practice and worked in academic institutions(75.3%). PET was available on-site in 87.7% of centers, with waiting times>7 days in nearly 90% of cases. **The use of PET strongly depended on nodule size:**PET was always performed by 71.7% of surgeons for nodules<3 cm and by 60.7% for nodules<2 cm, whereas only 15.2% always used PET for nodules<1cm(Q14). Surveillance remained the preferred strategy after negative PET in SPN<1cm, while upfront surgery was indicated by the 55.5% and 95.2% of surgeons in case of mild and high uptake.

Segmentectomy was the most commonly chosen resection for solid peripheral-intrasegmental SPNs<2cm(56.16%), for part-solid nodules<2cm with solid component ratio(SCR)<0.5(58.22%) and for T1a tumors(65.75%), whereas lobectomy became the predominant choice for T1c(85.62% of responders)(Q17).

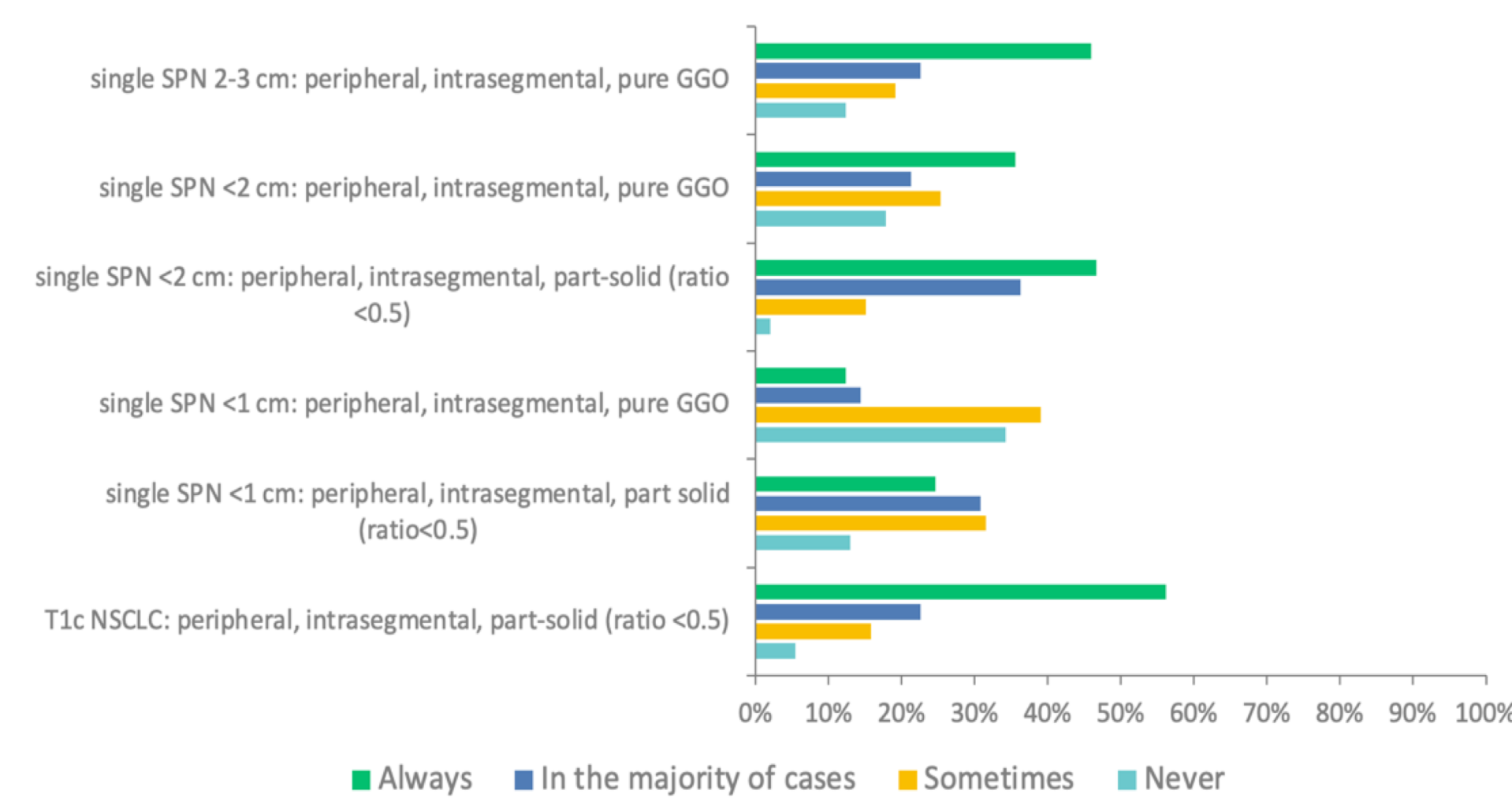
Systematic hilar and mediastinal lymphadenectomy represented the most frequent dissection across the different clinical scenarios:56.16% of respondents for SPNs<2cm and 82.19% for T1c. Even in the setting of part-solid nodules<2 cm(SCR<0.5), systematic lymphadenectomy was selected by 50.68% of surgeons(Q18).

The ^18F-FDG uptake has a limited impact on surgical strategy (Q19).

For SPN<2cm, approximately half of the responders(51.37%) indicated that they would modify their operative plan in the presence of high metabolic uptake: extending the parenchymal resection in 21.92%,a more extensive resection and lymphadenectomy in 21.2% of responders. Similarly, the surgical strategy remained the same independently from the PET uptake for the 54,1%,58,1%,65.0% and62.33% of responders in case of single SPN<2cm peripheral part-solid(SCR<0.5), T1a peripheral-intrasegmental, T1c peripheral intrasegmental, T1c peripheral-intrasegmental, part-solid(SCR <0.5)tumors respectively

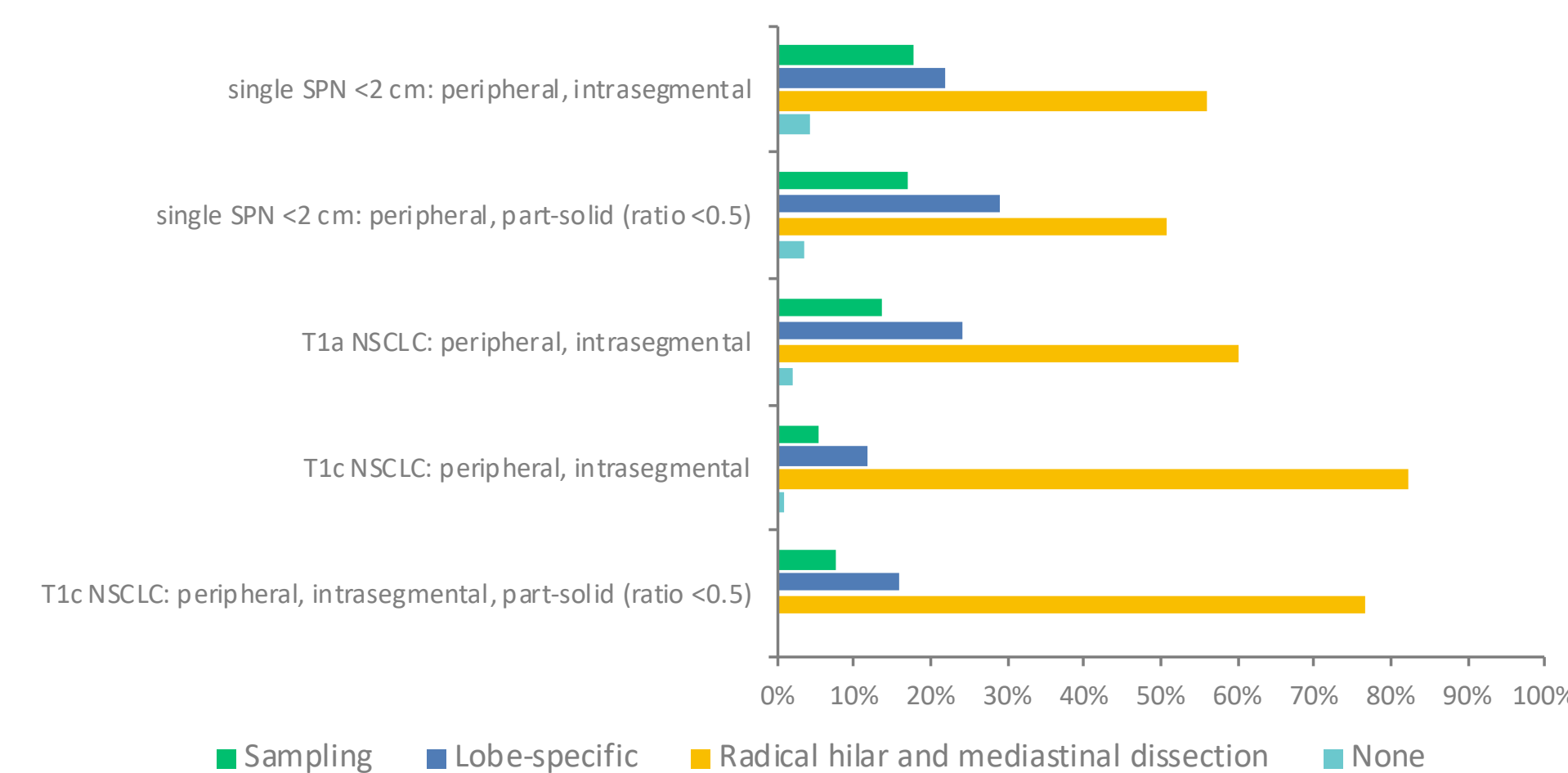
Q14: Would you perform PET staging in the following cases:

Answered: 146 Skipped: 0



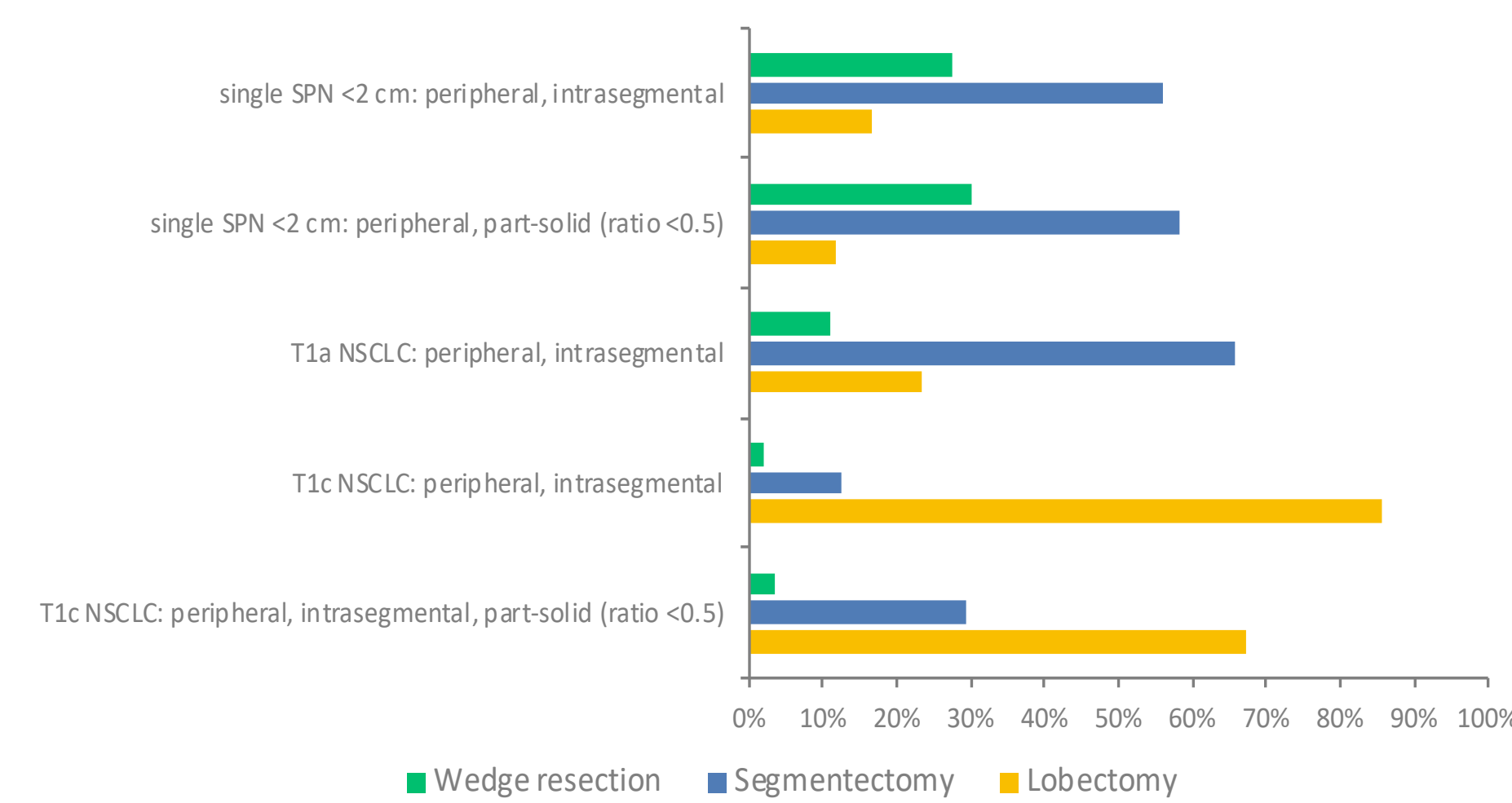
Q18: What is your preferred type of lymphadenectomy in the following cases:

Answered: 146 Skipped: 0



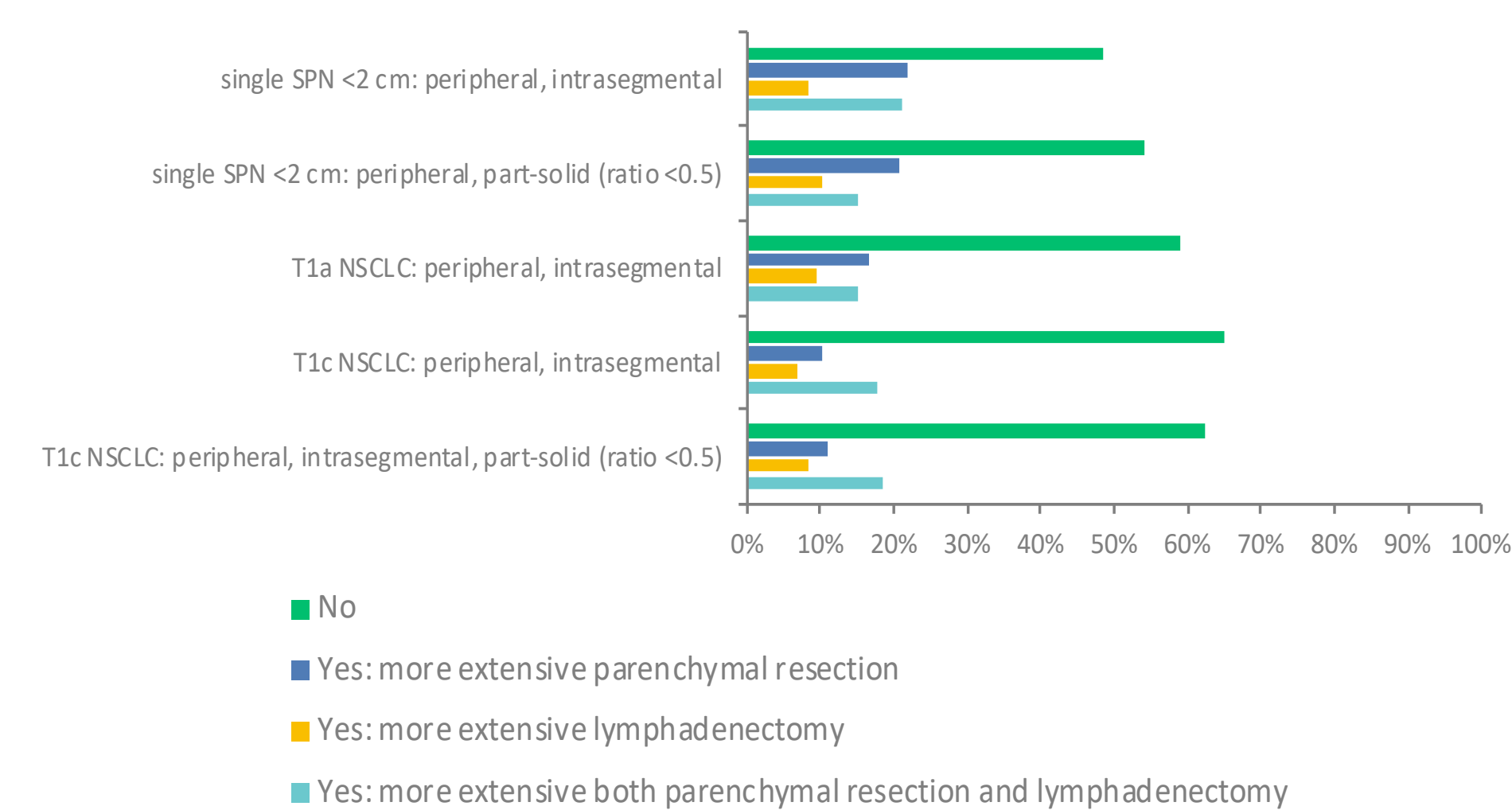
Q17: Whats is your preferred surgical approach in the following cases:

Answered: 146 Skipped: 0



Q19: Regarding questions 17 and 18, would you change your approach if PET results suggested SPN's high 18F-FDG PET uptake?

Answered: 146 Skipped: 0



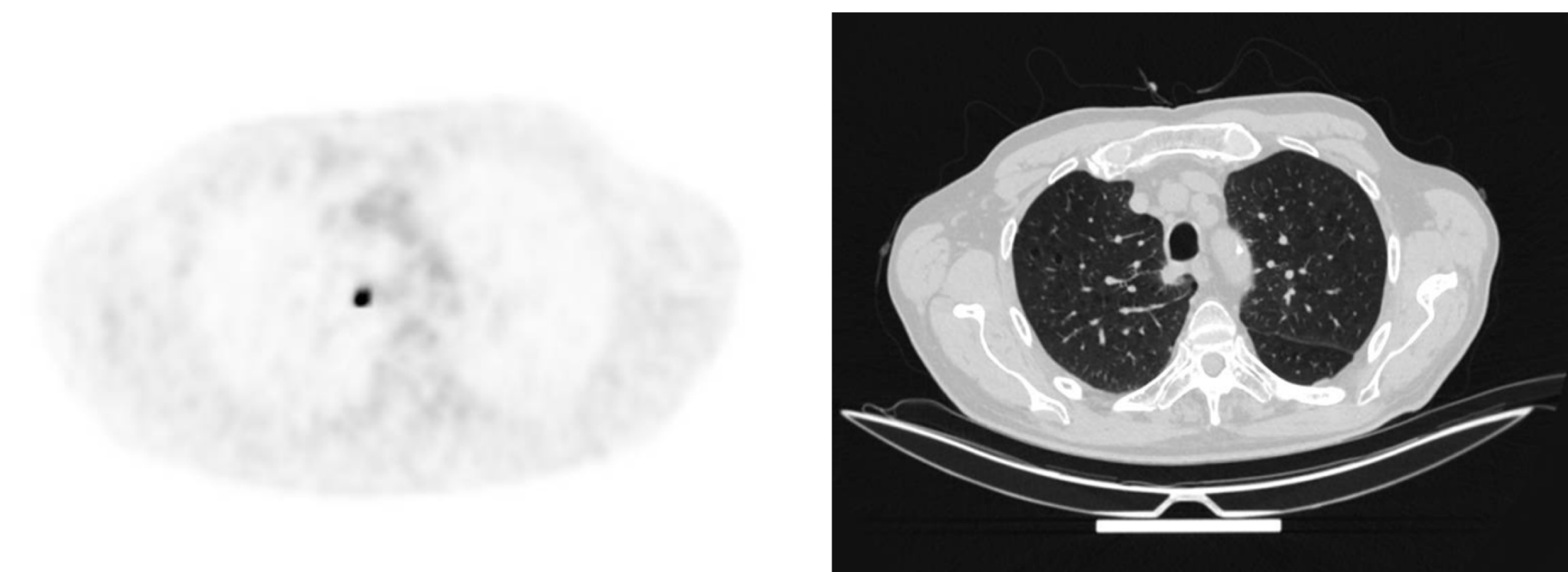
DISCUSSION AND CONCLUSION

While PET imaging is widely integrated into the multidisciplinary evaluation of SPNs, its clinical utility remains inconsistent, particularly for subcentimetric and subsolid nodules.

Although increased metabolic uptake prompts immediate surgical resection, a significant “management gap” exists: in nearly half of the cases, PET findings do not fundamentally alter the surgical strategy regarding the extent of resection or lymphadenectomy.

This suggests that for many practitioners, PET serves more as a confirmatory "preoperative ritual" than a decisive diagnostic tool.

These findings highlight an urgent need for standardized, evidence-based guidelines to optimize PET utilization in the era of sublobar resections.



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