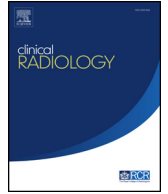


Contents lists available at [ScienceDirect](#)

Clinical Radiology

journal homepage: www.clinicalradiologyonline.net

A survey of UK percutaneous lung biopsy practice: current practices in the era of early detection, oncogenetic profiling, and targeted treatments

A.N. Tavare^{a,f}, S.S. Hare^{a,f}, F.N.A. Miller^b, C.J. Hammond^c, A. Edey^d,
A. Devaraj^{e,*}

^a Radiology Department, Barnet Hospital, Royal Free London NHS Foundation Trust, UK

^b Radiology Department, Kings College Hospital NHS Foundation Trust, UK

^c Department of Vascular Radiology, Leeds Teaching Hospitals NHS Trust, UK

^d Radiology Department, North Bristol NHS Trust, Southmead Hospital, UK

^e Radiology Department, Royal Brompton & Harefield NHS Trust, UK

ARTICLE INFORMATION

Article history:

Received 24 January 2018

Accepted 4 May 2018

AIM: To ascertain current percutaneous lung biopsy practices around the UK.

MATERIALS AND METHODS: A web-based survey was sent to all British Society of Thoracic Imaging (BSTI) and British Society of Interventional Radiology (BSIR) members (May 2017) assessing all aspects of lung biopsy practice. Responses were collected anonymously.

RESULTS: Two hundred and thirty-nine completed responses were received (28.8% response rate). Of the respondents, 48.5% worked in a teaching hospital and 51.5% in a district general hospital, while 32.6% (78/239) were specialist thoracic radiologists, 29.2% (70/239) “general” radiologists with a thoracic subspecialty interest, and 28% (67/239) interventional radiologists. Of the respondents, 30.1% (72/239) did not require pre-biopsy lung function tests (PFTs); 45.6% (108/237) stopped aspirin before the procedure; 97.5% primarily use computed tomography (CT) guidance for biopsy and 88.7% (212/239) perform core needle biopsy (CNB); and 86.6% of radiologists use a co-axial technique. There was wide variation in the number of samples routinely taken with most radiologists performing 1–2 passes (55.9%) or 3–4 passes (40.8%). Sixty-four percent reported using chest drain prevention techniques to minimise the impact of iatrogenic pneumothorax, with needle aspiration most frequent (43.9%). Timing of post-biopsy chest radiography (CXR), performed by 95.8% (228/239), also varied greatly: most commonly at either 1 hour (23%), 2 hours (24.7%), or 4 hours (22.6%). Moreover, the time of patient discharge after uncomplicated biopsy was variable, although the majority (66.1%) discharge patients after ≥ 4 hours.

CONCLUSION: There are striking variations among surveyed UK radiologists performing lung biopsy in decision-making, pre-biopsy work-up, post-biopsy monitoring, management of pneumothorax, and discharge. The results suggest a need for new updated national percutaneous lung biopsy guidelines.

© 2018 Published by Elsevier Ltd on behalf of The Royal College of Radiologists.

* Guarantor and correspondent: A. Devaraj, Radiology Department, Royal Brompton & Harefield NHS Trust, Sydney St, Chelsea, London SW3 6NP, UK. Tel.: +44 020 7352 8121.

E-mail address: a.devaraj@rbht.nhs.uk (A. Devaraj).

^f Joint first authors.

<https://doi.org/10.1016/j.crad.2018.05.009>

0009-9260/© 2018 Published by Elsevier Ltd on behalf of The Royal College of Radiologists.

Introduction

Percutaneous lung biopsy (PLB) is a widely performed test for obtaining tissue diagnosis in suspected primary lung cancer, as well as other thoracic malignancies. This technique is available in most UK hospitals, but offered by a minority of radiologists. National lung biopsy guidelines for PLB were last published by the British Thoracic Society (BTS) in 2003.¹ The last major UK survey of PLB practice took place in 2002. There has since been a number of changes in the diagnosis and management of lung cancer that have impacted PLB practice: namely, (1) identification of smaller lesions on computed tomography (CT); (2) BTS nodule management guidelines, which recommend PLB for diagnosis of some patients with indeterminate nodules; and (3) an increasing need for tissue molecular analysis to guide treatment, both at diagnosis and on disease progression. Consequently, there is increasing pressure on radiologists to biopsy smaller nodules and to provide enough tissue to enable complete histological and mutational analysis. Finally, pressure on beds has promoted interest in the ambulatory pathway in the management of PLB complications.^{2,3}

A recent North American Society of Thoracic Radiology (STR) survey revealed wide-ranging variability in many aspects of PLB practice, particularly post-biopsy aftercare and choice of sampling technique.⁴ The aim of the present study was to survey UK radiologists about current PLB practice.

Materials and methods

An online survey was sent to all members of the British Society of Thoracic Imaging (BSTI) and British Society of Interventional Radiology (BSIR), specialist societies of the Royal College of Radiologists (RCR), comprising 200 and 630 radiologists, respectively. The survey was anonymised and contained a mix of questions about all aspects of lung biopsy practice, including evaluation of the diagnostic pathway, pre-biopsy work-up, biopsy technique, management of complications, and post-procedural care. The survey also captured radiologist and lung cancer multidisciplinary team meetings' (MDTs) decision-making, including willingness to biopsy six different lesions (each with sample CT images and clinical vignettes provided). The survey was hosted by SurveyMonkey (San Mateo, CA, USA) and the built-in analytics on the platform were employed. The full list of questions is provided in Electronic [Supplementary Material Appendix A](#).

Results

Two hundred and thirty-nine responses were received (28.8% response rate): 148/239 (61.9%) of respondents were thoracic radiologists, comprising 78/239 (32.6%) subspecialty thoracic radiologists, 70/239 (29.2%) "general" radiologists with subspecialty interest in thoracic radiology, 28% (67/239) were interventional radiologists, and 9.6%

(23/239) responded as "other" (usually a combination of non-thoracic subspecialties, with abdominal and musculoskeletal radiology most common). Of the respondents, 48.5% (116/239) worked in a teaching (tertiary) hospital setting, with the remaining 51.5% practicing in district general hospitals (DGH). Just over 90% (216/239) were consultant radiologists, of which 79.6% (172/216) had been practicing for >3 years; the remaining respondents were registrars-in-training or clinical fellows. Fifty-nine (24.7%) performed <20 lung biopsies per year, 45.2% (108/239) between 21 and 50, 18.8% (45/239) 51–80, 6.3% (15/239) 81–100, and 5% (12/239) >100.

Institutional practices

Respondents were asked which type of radiologist primarily performed PLB in their institution: 42.2% (101/239) reported it was a dedicated thoracic radiologist, with 13.8% (33/239) citing an interventional radiologist, 31.4% (75/239) said a combination of the above two, and 12.6% (30/239) selected "other". One hundred and seventy (71.1%) reported that they had an on-site endobronchial ultrasound service (EBUS) and 28.5% (68/239) had access to an on-site thoracic surgery service.

Pre-biopsy work-up

Of the respondents, 30.1% (72/239) reported not requiring pre-biopsy pulmonary function testing (PFT) to be performed. Of the other 69.9%, 33% (79/239) always required PFTs: 24.3% (58/239) in most cases and 12.1% (29/239) in "selected cases" (e.g., if there was significant emphysema noted on the pre-biopsy CT). One hundred and fifty respondents provided details of PFT thresholds used to determine biopsy suitability: 82% used a forced expiratory volume in 1 second (FEV₁) value with absolute values of 0.8–1.5 l, or 30–50% predicted, used as minimum thresholds. The most frequent responses of lower limits were of 1 l ($n=81$) or 35% predicted ($n=11$). Eighteen percent reported the use of transfer factor for carbon monoxide (TLCO), with values of between 30–50%.

Of the respondents, 95.8% (229/239) required routine checking of patients' coagulation status before PLB. The maximum acceptable international normalised ratio (INR) threshold ranged from 1.2–1.9; the modal value was 1.5, with mean 1.4. A platelet threshold ranging from 30–150×10⁹/l (modal lower limit 50×10⁹/l with mean 78×10⁹/l) was used [90.4% (206/228)]. There was considerable variation with respect to managing anti-platelet medications: 45.6% (108/237) stopped aspirin pre-procedure, and 54.4% do not, with responses ranging from stopping aspirin 1–10 days pre-procedure (mode 5 days with mean 4.7 days). Clopidogrel was stopped pre-biopsy by 93.1% (217/233) of responders, with responses ranging from 1–14 days pre-procedure (mode 7 days, mean 5.8 days).

Biopsy technique

The majority (>60%) of PLBs were performed under CT guidance by 97.5% (233/239), with the remainder primarily

Download English Version:

<https://daneshyari.com/en/article/8786297>

Download Persian Version:

<https://daneshyari.com/article/8786297>

[Daneshyari.com](https://daneshyari.com)