

- 12 Martyn C. Peer review: some questions from Socrates. In Godlee F, Jefferson T, eds. *Peer review in health sciences*. 2nd ed. London: BMJ Books, 2003:322-8.
- 13 CONSORT statement. www.consort-statement.org/ (accessed 23 Jul 2004).
- 14 Moher D, Cook DJ, Eastwood S, Olkin I, Rennie D, Stroup DF, for the QUOROM Group. Improving the quality of reports of meta-analyses of randomised controlled trials: the QUOROM statement. *Lancet* 1999;354:1896-900.
- 15 Bossuyt PM, Reitsma JB, Bruns DE, Gatsonis CA, Glasziou PP, Irwig LM, et al. Towards complete and accurate reporting of studies of diagnostic accuracy: the STARD initiative. *BMJ* 2003;326:41-4.
- 16 Stroup DF, Berlin JA, Morton SC, Olkin I, Williamson GD, Rennie D, et al, for the Meta-analysis of Observational Studies in Epidemiology (MOOSE) Group. Meta-analysis of observational studies in epidemiology: a proposal for reporting. *JAMA* 2000;283:2008-12.
- 17 Moher D, Jones A, Lepage L. Use of the CONSORT statement and quality of reports of randomized trials: a comparative before-and-after evaluation. *JAMA* 2001;285:1992-5.
- 18 Delamothe T, Smith R. Open access publishing takes off. *BMJ* 2004;328:1-3. doi:10.1136/bmj.328.7430.1
- 19 Bhopal R, Rankin J, McColl E, Thomas L, Kaner E, Stacy R, et al. The vexed question of authorship: views of researchers in a British medical faculty. *BMJ* 1997;314:1009-12.
- 20 Rennie D, Yank V, Emanuel L. When authorship fails: a proposal to make contributors accountable. *JAMA* 1997;278:579-85.
- 21 Bekelman JE, Li Y, Gross CP. Scope and impact of financial conflicts of interest in biomedical research. A systematic review. *JAMA* 2003;289:454-65.
- 22 Hussain A, Smith R. Declaring financial competing interests: survey of five general medical journals. *BMJ* 2001;323:263-4.

Fine needle aspiration cytology in cancer diagnosis

Is quick, cheap, and accurate when used appropriately

Fine needle aspiration cytology (FNAC) entails using a narrow gauge (25-22G) needle to collect a sample of a lesion for microscopic examination. It allows a minimally invasive, rapid diagnosis of tissue but does not preserve its histological architecture. In some cases this limits the ability to make a definitive diagnosis. As with any invasive procedure there are risks, and as with all diagnostic tests involving sampling and interpretation, important diagnoses can be missed. False negative results and occasional complications of the technique have been reported as proof that it is "useless and dangerous."¹ However, accuracy and complications need to be compared with robust published data about alternative techniques before abandoning fine needle aspiration. Clinicians require clear communication with the cytopathologist to ensure that the procedure is appropriate for the question being addressed and that both understand the answer in the same terms. The rapid diagnosis possible with fine needle aspiration can shorten or avoid hospital admissions, and speed a patient's route to an appropriate specialist. In one study examining the impact of a FNAC service on the management of patients, the savings exceeded the cost of the service by a factor of four.² Used sensibly, aspiration cytology offers a relatively cheap, quick, and accurate tool for the diagnosis and follow up of cancer.³

Published series of FNAC show a wide variation in diagnostic accuracy and complication rates.⁴ This reflects the efficacy of the technique for the particular site being sampled and the expertise of those taking and examining the samples. Specimens taken by individuals who use the technique only occasionally are often of poor quality.⁵ A study of 5226 fine needle aspiration samples taken from the six commonest sites by cytopathologists and clinicians showed inadequate rates of 15-30%, depending on the site, for all aspirators but an overall rate of 12% when the sample was taken by a cytopathologist.⁶

Cytology is not the same as histology. The published literature contains an abundance of case reports describing diagnosis after fine needle aspiration of various rare conditions. Although some unusual diseases have characteristic appearances that an expert cytopathologist may recognise, many reports of more subtle diagnoses represent retrospec-

tive assessment of the cytology once a histological diagnosis is known or cases where the final diagnosis was one of a list of possibilities raised by the cytology. Professionals using fine needle aspiration need to have a realistic approach to what is achievable. The cytopathologist should indicate the degree of certainty when offering a diagnosis, making clear when a clinical or radiological correlation is required and when histological confirmation is necessary. The clinician should recognise when fine needle aspiration has narrowed down the possibilities and when the diagnosis has been confirmed. This is particularly important when FNAC is used to make a primary diagnosis of malignancy.

In symptomatic breast disease, FNAC used alongside clinical and radiological assessment allows rapid, inexpensive, and accurate diagnosis.³ However, review of published series has shown that core biopsy with histology is more sensitive and specific than fine needle aspiration in diagnosing most impalpable radiological lesions.⁷ Histology facilitates the diagnosis of benign lesions, allows assessment of whether carcinoma is invasive or in situ, and gives some indication of grade and subtype of carcinomas.

Thyroid nodules are common; most are part of the spectrum of nodular goitre. FNAC offers direct sampling and identification of the minority that are definite or probable malignancies and those that are follicular neoplasms, which require surgery with full histological assessment to exclude malignancy. Fine needle aspiration is most sensitive at detecting anaplastic (almost 100%) and papillary (around 90%) carcinomas.⁸⁻¹⁰ Although FNAC has greater accuracy in identifying tumours than alternative imaging or biochemical methods, it misses 5-10% of cancers. Even so, its incorporation into the diagnosis of thyroid nodules reduces the requirement for excision by at least 25% and doubles the yield of cancer in those that are excised. Core biopsy is more traumatic and has not been shown to increase accuracy of diagnosis.

Diagnosing metastatic or recurrent malignancy by FNAC generally has a high specificity and sensitivity.^{3 11} Many lymph nodes and other metastatic sites are readily accessible, and the ability to match the new lesion with the previous primary reduces the opportunity for

Letters p 290

error. However, in diagnosing metastases with no known primary, such as liver metastases as a first presentation, consideration should be given to the need for histological material. Cytology is ideal for confirming metastasis from a clinically or radiologically suspected primary site and distinguishing between limited alternatives such as small cell or non-small cell lung cancer. However, if there is no indication of a possible primary site, core biopsy facilitates more thorough assessment of a tumour's architecture and immunohistochemical profile, allowing better prediction of origin and prognosis. The trauma and risks of biopsy are greater than for fine needle aspiration,¹¹ and we need to consider for each patient which technique is most

suitable and how the result of any invasive test would alter management.

Used appropriately FNAC remains a powerful tool in the diagnosis and management of patients with malignancy. A realistic approach to what is achievable, with clear communication between clinician and cytopathologist, is vital.

Derek E Roskell *consultant pathologist*

(derek.roskell@orh.nhs.uk)

Ian D Buley *consultant pathologist*

Department of Cellular Pathology, John Radcliffe Hospital, Oxford OX3 9DU

Competing interests: None declared.

- 1 Metcalfe MS, Bridgewater FHG, Mullin EJ, Maddern GJ. Useless and dangerous—fine needle aspiration of hepatic colorectal metastases. *BMJ* 2004;328:507-8. (Also electronic responses at <http://bmj.bmjournals.com/cgi/content/full/328/7438/507>)
- 2 Brown LA, Coghill SB. Cost effectiveness of a fine needle aspiration clinic. *Cytopathology* 1992;3:275-80.
- 3 Buley ID, Roskell DE. Fine needle aspiration cytology in tumour diagnosis: uses and limitations. *Clin Oncol* 2000;12:166-71.
- 4 Powers CN. Complications of fine needle aspiration biopsy: the reality behind the myths. In Schmidt WA, ed. *Cytopathology*. Chicago: ASCP Press, 1996:69-91.
- 5 Snead DRJ, Vryenhoef P, Pinder SE, Evans A, Wilson ARM, Blamey RW, et al. Routine audit of breast fine needle aspiration (FNA) cytology specimens and aspirator inadequate rates. *Cytopathology* 1997;8:236-47.
- 6 Singh N, Ryan D, Berney D, Calaminici, Sheaff MT, Wells CA. Inadequate rates are lower when FNAC samples are taken by cytopathologists. *Cytopathology* 2003;14:327-31.
- 7 Britton PD. Fine needle aspiration or core biopsy. *Breast* 1999;8:1-4.
- 8 Castro MR, Gharib H. Thyroid fine-needle aspiration biopsy: progress, practice and pitfalls. *Endocrine Pract* 2003;9:128-36.
- 9 Orell SR, Phillips J, eds. The role of fine needle biopsy in the investigation of thyroid disease and its diagnostic accuracy. In: *The thyroid, fine needle biopsy and cytological diagnosis of thyroid lesions. Monographs in clinical cytology*. Vol 14. Basel: Karger, 1997:8-16. (Chapter 3.)
- 10 Gharib H, Goellner JR. Fine-needle aspiration biopsy of the thyroid: an appraisal. *Ann Intern Med* 1993;119:282-9.
- 11 Buscarini L, Fornari F, Bolondi L, Colombo P, Livraghi T, Magnolfi F, et al. Ultrasound-guided fine needle biopsy of focal liver lesions: techniques, diagnostic accuracy and complications. A retrospective study on 2091 biopsies. *J Hepatol* 1990;11:344-8.

The future of psychotherapy in the NHS

More evidence based services are taking shape to meet growing demand

The demand for psychological therapies in Britain has never been greater,¹ yet their claim on scientific legitimacy and therefore on public resources has never been under greater scrutiny.^{2 w1-w4} At a meeting held by the UK Council for Psychotherapy in November 2003 to address the future of psychotherapy in the NHS, the clearest messages were conflicting ones—that although the taxpaying public demands increased access to psychological therapies and the government espouses both patient choice and user centred services,¹ the evidence on the efficacy and cost effectiveness of the many different psychotherapies is patchy. Randomised trials cover only a limited number of treatments, and many treatments remain unevaluated in relation to many conditions.³ Exclusion rates of 40-70% of presenting patients limit their generalisability to the treatment seeking population,⁴ and a dearth of long term data, data on quality of life, non experimental evidence, user perspectives, and evidence of the generalisability to NHS practice of studies carried out in other settings hampers rational purchasing decisions. Little is known about equity of access to therapy across socioeconomic or ethnic groups, and with neither a career structure nor a pay scale of its own, psychotherapy is not even formally recognised as an independent profession. The result is a lottery for patients and piecemeal and ad hoc arrangements for recruitment and supervision of staff.

One of the key obstacles has been a conflict of cultures. The narrative based hermeneutic culture of post-

Freudian psychotherapy and the empirical culture that dominates medicine have proved reluctant bedfellows. Theoretical differences are reinforced by longstanding political antagonisms and resentments. Analytic therapists in particular have been defensive and suspicious in the face of the evidence culture as though the very idea of objective scrutiny represented a hostile intrusion into a quasi sacred private world.⁵ Cognitive behaviour therapy has done much better at embracing the need for evidence and the requirements of purchasers. As a result its strong research and dissemination strategy has found favour with service providers and research funding bodies lost in a jungle of conflicting claims and vested interests, regardless of whether it is the most effective for any given indication.⁵

Real difficulties exist in providing meaningful evidence on psychotherapies.⁶ Although research is legitimately and necessarily a public activity, much of what is most important in psychotherapy is legitimately and necessarily private.⁷ As with surgical research, factors related to the individual practitioner and patient are probably at least as important a part of the “active ingredient” as the modality of therapy.^{6 w8} Individual, patient related factors such as coping style may also be influential. A meta-analysis of 16 trials showed that self reflective and introspective individuals seem to benefit more from insight oriented therapies