Role of Biomedical Scientists within the provision of a non-gynaecological cytology service

Introduction

The provision of a non-gynaecological cytology (NGC) (also referred to as diagnostic cytology) service involves a team of trained health care professionals. Historically this was typically provided by medically trained pathologists who would report and sometimes take samples, especially fine needle aspiration (FNA) cytology and biomedical scientists and laboratory staff who would receive and prepare the sample for reporting. This model has evolved significantly in recent years for many reasons including:

- requirement for better use of limited resources
- service expansion/service delivery changes
- changes in training programmes/competency assessment facilitating the expansion of scientific roles
- staff skill shortages.
- development of quality guidance and standards

In many ways these changes are not fully recognised in existing guidance. Given this they require clarification to assist laboratories and clinical teams and hospitals in service provision.

Sample preparation

Once a cytology sample is received into a laboratory it will be processed by a biomedical scientist and/or other grades of laboratory technical staff, working to existing guidance and laboratory standard operating procedures (SOPs) (1). Such SOPs should be produced and agreed within the laboratory in line with quality standards (2,3).

Reporting

The reporting of all types of NGC can be undertaken by Consultant Pathologists, with appropriate post-FRCPath training if required.

Pre-screening of NGC samples is done in many laboratories, with biomedical scientists offering an opinion as to diagnosis prior to being reported by either a Consultant Pathologist or suitably trained/qualified biomedical scientist. This provides a valuable quality assurance and education/training opportunity.

Biomedical scientist staff in many departments report out appropriate negative exfoliative NGC, as long as this is agreed based on experience, competency and repertoire in line with the laboratory's

quality assurance process which the medical head will be part of; attainment of the Diploma of Expert Practice in Non Gynaecological Cytology (DEP) would be suitable evidence of competence for the areas it covers.

Biomedical scientists who hold the Advanced Specialist Diploma in Non-Gynaecological Cytology (ASD) are able to report out positive samples from respiratory exfoliative cytology, urine and serous fluids.

The attainment of the DEP and ASD qualifications is advocated as independent external evidence of attainment of suitable skills in these areas. The reporting of fine needle aspiration cytology is not considered appropriate for biomedical scientists.

Ultimately it is the Medical Head of Department who is responsible for the issue of all diagnostic cytology results (4). As is the case for Pathologists, no biomedical scientist should be working in isolation, and should have access to colleague(s) for case discussion.

Ancillary Testing

In some areas of cytology, ancillary testing (e.g. molecular or genetic markers) is indicated. Depending on the laboratory facilities, these may be done by biomedical scientist staff, often from Cellular Pathology, but may involve other pathology disciplines also. This will require suitable training in the required methodology and technology, again with participation in the appropriate EQA scheme(s).

Sample assessment for adequacy for reporting

Certain NGC samples are taken by specific clinical procedures (e.g. mediastinal EBUS, FNA of many sites) by clinical teams or by Pathologists. An opinion as to sample adequacy and sometimes a diagnosis can be offered by a Pathologist at the time the sample is taken. In most settings though, resources do not allow for this. A comment on sample adequacy (Rapid on-site evaluation – ROSE) may be offered by a biomedical scientist. If the biomedical scientist has suitable experience based on competency and service needs and appropriate training/qualifications they may also be able to offer a preliminary opinion mainly for triage of the sample material rather than for patient management as well as ROSE.

Multi-disciplinary Team Meetings (MDTMs)

The majority of MDTMs are cancer related, and offer an opportunity for the whole clinical team to meet and discuss all the relevant information concerning a patient to help arrive at the best individualised treatment option(s). Many of these will involve cytology and also histology. In most cases it will require a Pathologist to report/review the cytology and histology. The development of biomedical scientist histology reporting may alter this in the future (4). A biomedical scientist may attend and present at MDTMs, and on occasion stand in for a pathologist, but the MDTM named Pathology lead will always be a Pathologist (6). Biomedical scientists who hold the Advanced Specialist Diploma in Non-Gynaecological Cytology can review and present appropriate cytology (7).

Clinical Scientists in Cytology

Clinical Scientists in Cytology are uncommon, although the role is more common in other Pathology disciplines. It is possible that biomedical scientist cytology staff in this grade of post will increase in the future (8) with developments in biomedical scientist career pathways. Trusts/employing hospitals and those in such posts should follow guidance on appointment to such a post (9). The Health and Care Professions Council for Clinical Scientist Standards of Proficiency state that they are able to practice as an autonomous professional, exercising their own professional judgement (10).

Continuing education/assessment/appraisal

All staff operating at Consultant level require appraisal which covers their whole scope of work, and for a biomedical scientist operating at this level in cytology this is best done in a similar manner to that of a medical Pathologist. This will ensure their development, education and monitoring is the same in this capacity as a Pathologist. This would include participation in CPD and showing evidence of this through audit, quality improvement activities, review of material and participation in relevant EQA etc. They should also be supported in their role with access to suitable training and education, as is appropriate to the departmental quality assurance process, departmental needs and individual roles.

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