Haematological Malignancy Diagnostic Service

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Introduction

Welcome to the first edition of the HMDS newsletter. It is our aim to produce this on a quarterly basis and provide regular up-dates on our work within HMDS. In an era of rapid development in diagnostics and therapeutics, we will have plenty of new and exciting developments to share with you over the next few years. The contents of this publication should give understanding of how this impacts on users of our service. We also plan to include some interesting technical and scientific information about laboratory investigations in future issues. Suggestions for other contributions are welcome.

Recent changes to reporting

May 2016 saw the publication of revisions to the WHO classification of both lymphoid and myeloid malignancies. As a result, we have reviewed our own diagnostic practices within HMDS and made up-dates in several areas so we remain consistent with the international consensus. This will mean you may notice changes in our diagnostic terms for several disease entities.

The terminology for some DLBCL classifications has changed. **DLBCL or Burkitt lymphoma – further tests pending** will now be termed **High grade B-cell lymphoma, NOS** until MYC results are available. The diagnosis may then be up-dated to **Burkitt lymphoma** or **High grade B-cell lymphoma, with MYC and BCL2 and/or BCL6 rearrangements** or remain as **High grade B-cell lymphoma, NOS** if no chromosomal rearrangements are identified.

Recent work by ourselves and others has highlighted the poor prognostic significance of bone marrow involvement in plasmacytoma patients. In line with guidance from the International Myeloma Group, we have introduced a new term, **Plasmacytoma with minimal marrow involvement**, to be used in cases which have morphologically normal bone marrow but have neoplastic plasma cells detectable by flow cytometry.

There is a complete nomenclature change for MDS categories. Cases will now be classified using the following terms:

MDS with single lineage dysplasia (MDS-SLD) **MDS with multi-lineage dysplasia (MDS-MLD)**
MDS with ring sideroblasts (MDS-RS-SLD & MDS-RS-MLD) **MDS with isolated del(5q)**
MDS with excess blasts (MDS-EB-1 & MDS EB-2) **MDS, unclassifiable (MDS-U)**

Several new terms for AML with recurrent genetic abnormalities have also been introduced. Those abnormalities include MLL rearrangement, t(9;11)(p21.3;q23.3), t(6;9)(p23;q34.1), inv3(q21.3q26.2) or t(3;3)(q21.3;q26.2), t(1;22)P(13.3;Q13.3), mutated NPM1 and biallelic mutations of CEBPA. Additionally, SF3B1 gene mutational status can now be used in the classification of MDS.

There is now a new HMDS protocol for the investigation of suspected myeloproliferative neoplasms. JAK2 Exon 12 and MPL mutation analysis will not be performed as first-line investigations on peripheral blood samples. A bone marrow aspirate is the recommended specimen type for these investigations. BCR/ABL studies will only be performed on those cases with the presence of a persistent, left-shifted neutrophilia with concurrent basophilia.

There are other minor modifications which there is not space to mention here but, if there are changes which you feel need more explanation, please contact one of the team who will be happy to discuss further.

Swerdlow, S.H. et al. The 2016 revision of the World Health Organization (WHO) classification of lymphoid neoplasms. Blood 2016, 127:2375-2390.

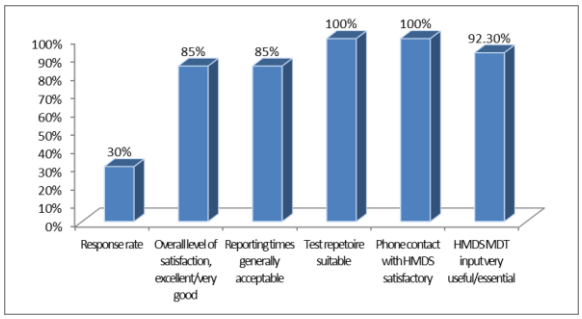
Arber, D.A. et al. The 2016 revision of the World Health Organization (WHO) classification of myeloid neoplasms and acute leukaemia. Blood 2016, 127:2391-2405.

New consultant staff

It is with great pleasure that we have welcomed two new consultants to the team during the last few months. Dr John Goodlad, a histopathologist, joined us from Edinburgh earlier in the year and Haematologist Dr Pedro Martin-Cabrera has come to us more recently from the MLL lab in Munich.

User survey feedback

For the fifth time, HMDS have circulated a user survey to haematology consultants across the clinical networks, in an attempt to obtain feedback with the view to improving its overall service provision. Many thanks to those of you which completed the questionnaire.



Response rate to the survey was lower than previously probably due to several users completing this survey on a number of past occasions. The overall level of satisfaction with the service was either excellent or very good. The test repertoire was regarded as 100% suitable and reporting times were generally acceptable. One respondent mentioned turnaround time targets for haematology malignancies. Turnaround times are one of our KPIs and are reviewed at the quarterly management review meetings.

HMDS turnaround times are compliant with RCPath guidelines and no significant change in turnaround times over the last 12 months has been noted. An apparent delay in reporting may be related to batching of samples or day of specimen receipt, as some tests are performed on certain days. Any urgent results are processed promptly if requested to do so. HMDS are also willing to phone with results, if the name and number of the contact is provided on the request form and marked urgent. We also contact users when results are unexpected.

Communication with HMDS was regarded as highly satisfactory by phone but there was less satisfaction with the emailing messenger service. This service has now been highlighted to users. Issues with transportation were raised but this is outside of HMDS remit. The HMDS user guide clearly states where samples should be sent routinely and out of hours.

HMDS input into MDTs was rated as very useful/essential. The demand for MDT involvement is high, with more than 40 MDTs a month which is a huge commitment of senior staff time. Generally the HMDS involvement was felt to be vital and therefore this will continue in the current format. According to our data there has not been a significant increase in non-diagnostic reports but acknowledge that with the increase in tissue biopsies, it is often recommended that an excision biopsy is done to confirm the diagnosis if there is any uncertainty. This is good clinical practice and reflects a change in the approach/management by radiologists and surgeons rather than a change of practice within HMDS.

HMDS successes

HMDS will once again have a good representation of work at the American Society of Haematology meeting in December. Roger Owen will be giving an oral presentation entitled 'Impact of Minimal Residual Disease in Transplant Ineligible Myeloma Patients: Results from the UK NCRI Myeloma XI trial'. Andy Rawstron is presenting work on Smouldering myeloma (Validation of Plasma Cell Immunophenotype As a Biomarker to Identify High-Risk Smouldering Myeloma) and is also an author on numerous CLL trial abstracts. Myeloid interests within the department are also represented by Catherine Cargo, who will be presenting a poster entitled 'Mutational Profiling of Peripheral Blood and Bone Marrow Samples Discriminates Reactive Monocytosis from Chronic Myelomonocytic Leukaemia'. HMDS staff have also contributed to many other abstracts submitted by other institutions so well done to everyone involved.

Dr Roger Owen (Consultant Haematologist) and Dr Ruth de Tute (Principal Clinical Scientist) both recently won awards at the 9th International Workshop on Waldenström's Macroglobulinemia (WM) in Amsterdam. Roger won the prestigious Waldenström's award which is presented in recognition of lifetime commitment to both clinical service and research in WM. Ruth won a plenary award for work on developing diagnostic and monitoring flow cytometry assays for WM.

HMDS educational events

Following the success of previous meetings, we plan to hold another Summer study day in 2017.

Title: The HMDS Annual Haematopathology up-date: Incorporating novel diagnostics into patient management
Date: **30th June 2017**
Venue: Royal Armouries, Leeds
Watch this space or check our website (www.hmds.info) for further details nearer the time.

Issues with Friday postage

Please can we remind users that HMDS does not have a postal delivery on Saturday. Samples posted on Friday do not reach us until Monday morning and this can result in samples being inadequate for processing.

For centres which send samples via Royal Mail:
Clinically non-urgent samples to be sent to HMDS fresh, i.e. BM, PB, unfixed tissue, **should not** be taken on Fridays. If there are situations where this is unavoidable HMDS should be contacted by telephone (0113 2067851) **before the specimen is taken** for advice on how best to proceed.