DEVELOPMENTS IN DIGITAL IMAGING FOR THE UK NEQAS (H) BLOOD CELL AND BONE MARROW MORPHOLOGY SCHEME.

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The collaborative partnership between UK.NEQAS(H) and Haematology at Manchester Royal Infirmary has provided pilot exercises for external quality assessment (EQA) in morphology using digital images for distribution via the internet or storage media. We have developed electronic “virtual slides” of blood and bone marrow smears comprised of multiple images taken of high power fields and “stitched” together using commercial software. On the internet, the resulting composite image is accessed with a viewing package offering navigation and zoom to high magnification. The virtual images complement traditional morphology slides, reproducing skills used in haematological smear interpretation whilst allowing different users to view identical material.

We present four virtual slides from the latest UK.NEQAS(H) pilot blood morphology exercise. By logging on to the UK.NEQAS(H) web site participants viewed and then reported the five most significant morphological features for each case. They were not informed that the images were taken from previous glass smear surveys.

Returns from 166 centres (37% of participants in national surveys) showed 92% of responders found navigation within the image acceptable, 72% found that image size was adequate for evaluation. There was agreement between glass slide surveys and the digital image exercise for the five most significant reported features and we established enthusiasm for the use of virtual images in a range of EQA related applications.

A key role of EQA is educational and the developments in digital imaging provide opportunities for tutorial based learning by highlighting complex morphology cases and building consensus opinion. We have compiled an Image Library of UK.NEQAS(H) morphology surveys available via www.ukneqas-haem.org.uk (via Morphology Exercise) or the Manchester web site www.manlab.co.uk (Department of Morphology). Virtual images are displayed with expert and consensus opinion. The Library has been registered with the IBMS Executive for the Continuing Professional Development scheme to be introduced in 2005.