SS5 Digital pathology in cancer classification

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= Abstract =
One of the innovations of the 5th Edition of the WHO Classification of Tumours was the introduction of reference whole slide images. This means that histopathologists can see representative images of whole tumour slices, rather than selected fields, allowing them to appreciate the histological patterns present at low and high power magnification, and the background tissue. At present the library of images included on the WHO Blue Books Online website (https://tumourclassification.iarc.who.int/welcome/) is incomplete. For some books we have images for all tumour types (e.g. breast), and for others relatively few. In some instances the images may not be optimal, and a process of improvement and replacement has commenced.

If the WSI on the site are representative, then comparison of those images with diagnostic images is feasible, and there are potential methods available for that which show considerable promise. These could avoid having to upload WSI, increasing speed and potentially adding value.

The use of AI to evaluate images for diagnostic purposes is increasing rapidly. Some are validating the importance of known histological features, while questioning the validity of others. AI methods are entering clinical practice for some common tumour types, for radiological as well as histological images. The WHO Classification has referenced these methods where appropriate, as it does with all diagnostic methods, but it cannot endorse individual methods which tend to be commercial as it is not in its remit to evaluate or recommend commercial systems: this is the purview of individual government agencies which assess diagnostic devices for their own healthcare environment.

References

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