Hematopathology in the new decade: what to expect

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At the beginning of a new decade, it is a good moment to reflect on the direction pathology, and especially hematopathology, is going. This is a risky business: you are probably all aware of the main problem foreseen for the twentieth century: an explosion of transportation (which indeed happened) resulting in the impossibility of removing the vast amount of horse manure from the streets in big cities.... At a speech celebrating 40 years of the Dutch pathology society in the 1970s, my promoter foresaw that clinical pathology would soon be fully based on enzyme histochemistry and electron microscopy; and how many have predicted that expression arrays would make pathologists an endangered species.

We do see huge changes in our profession: a hematopathologist now uses, as a routine, histology, immunohistochemistry, and cytogenetic techniques. Often there is good access to clinical data through electronic patient records, so there is no need for complaining on lack of clinical data anymore. We are appreciated much better since our diagnosis is much more refined and also much more relevant to patients, thanks to better and variable treatment options. And we deliver faster: rapid tissue processing, speech recognition, and electronic transmission have made 1-day pathology feasible.

What will happen next? Deep sequencing is now done in the research laboratories, and within 3–5 years, we will be able to have full knowledge of genetic changes in tumor and normal tissue of our patients. It is not easy to predict

how this will affect our work, but it will be at least another tool; another layer of knowledge that pathologists can incorporate in their diagnosis. A large amount of biologicals is being tested in preclinical and early clinical studies, and we will see some patients that benefit, and others that do not. We need to develop tools to predict how a tumor responds to specific drugs, and use that knowledge as well. Within a few years we will all have slide scanners, and thus it does not matter anymore where we are when we make our diagnosis. Will we be carrying around I-Pads so that we can make a diagnosis even when we are enjoying a day at the beach? For sure, patients will ask for their tissues to be evaluated by specialized pathologists.

In a nostalgic mood, I sometimes think back how things were 5 years ago: no Blackberry or I-phone, dictation on tapes, overnight tissue processing and another day before immuno came, bone-marrow biopsies in plastic after a week, airplanes that flew even when volcanoes were active, slide seminars with glass slides, poster areas that were bigger than commercial exhibitions, banks that were safe, pathologists who could work in peace in the cellar.... But soon my mobile rings, it is Friday morning, and a child with a fast-growing mass comes about: I am glad that I can tell the pediatric oncologist that when I get the biopsy in the morning I will be able to deliver a reliable diagnosis by the end of the afternoon, without stress and a free weekend coming up. Hematopathology is more interesting and more fun every year!

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