Chemical pathology

Chemical pathology and Krapp's last tape

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Sixty years of chemical pathology

Looking back over the past 60 years of chemical pathology reminds me of Samuel Beckett's play, "Krapp's last tape". After all, what if anything has been achieved in the field of chemical pathology since the birth of the *Journal of Clinical Pathology* (JCP)? Well, in truth, quite a lot, so let me try to summarise some of the more notable events that come to mind.

Looking at some of the early chemical pathology publications in JCP, about three score years ago, I am struck by the number of papers describing the development of various manual assays for diagnostic use. Indeed, I am reminded of the words, when I was a senior house officer/registrar in chemical pathology, of a top grade biochemist who explained to me how he would spend hours manually measuring the concentration of calcium in a single serum sample. Clearly, we now live in an era of robotics and large analysers, somewhat analogous to a factory production line, where hundreds of patient samples can be handled daily under quality controlled and accredited conditions. Gone also are the days of "bucket

chemistry", and instead we can now measure down to "minute concentrations" using a variety of methodologies including immunoassays, tandem mass spectroscopy, and DNA techniques.

And neither are biochemical assays confined to the laboratory, we have now moved to the bedside and beyond with point of care testing devices in the general practitioner surgery, intensive care, or casualty departments as examples. Furthermore, patients now are able to test themselves—for example, blood glucose in diabetes mellitus. There are also technologies that now allow continuous patient result read out of a selection of biochemical parameters, including blood gases.

We should not forget also the major role of computerisation in chemical pathology laboratories today, how patient tests can be requested electronically without the requester having to write a jot on paper, and how automated interpretive comments can be attributed to the patient results. Despite computerisation, chemical pathology departments may also be staffed by a variety of skilled workers from

many disciplines including medics, clinical scientists, basic medical scientists, clerical staff, medical laboratory assistants, information technologists, and nurses.

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In those early embryonic days of JCP consultant general pathologists ran some pathology departments and chemical pathology may have been a small section of that laboratory. Strangely, some chemical pathology departments today still do not have a consultant chemical pathologist. This is surprising given the important clinical input that the specialty can provide. Witness now how large numbers of chemical pathologists have metamorphosed out of the laboratory to major clinical activities, such as outpatient clinics, clinical investigation units, and ward rounds.

Looking back at the past "tape" of chemical pathology, plenty has occurred over 60 years. Enormous technological advantages have been made; an ever increasing repertoire of biochemical tests is now offered and increasing clinical relevance observed. The field of chemical pathology contributes richly to the provision of patient care and provides a challenging, rewarding, and fascinating career for those who enter it.

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