

Histopathology: Not just 'medical CSI'

Wanna be at "the top of the medical pyramid"? In yet another instalment of our Careers Advice column, histopath legend at St Thomas' Prof Sebastian Lucas gives *Medical Student* the lowdown on a field where one must expect the unexpected...for example that there are FIFTEEN hallmark features of *Pneumocystis Carinii*.



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Sub-Editor

PROFESSOR Sebastian Lucas is head of the department of clinical histopathology at St Thomas' Hospital and organises the pathology teaching for the medical undergraduate course at GKT. He is well known to students for his entertaining anecdotes, enthusiasm for his field and quite spectacular voice!

The interview got off to a rather embarrassing start as Prof Lucas gave me the opportunity to showcase my ignorance of all things pathological...I immediately regretted revealing my relative seniority in the medical student world when I failed to recognise the gory photo of a specimen presented to me as Tuberculous Pericarditis (in fact, I didn't even realise it was a heart!) I was very relieved to eventually get the chance to do some grilling of my own...

What does histopathology involve? Histopathology is short for cellular pathology, which is all the diagnostic aspects of tissue pathology, and is divided into three. One is ordinary histopathology, which is looking at tissues of the living, such as resections or skin biopsies. The second aspect is cytopathology, which looks at cells spread out on a slide, cervical screening for cancer, and increasingly fine needle aspiration, which is sticking needles into lesions which may be cancer to make very rapid diagnoses.

The third aspect is autopsies, looking at the dead, to answer questions about why they died, and that's again subdivided into three, which is forensics, i.e. query murder, another one is perinatal, which is dead foetuses or babies dying around the time of birth and then everything else, which is children, or adults, but not forensics and not perinatal.



The Prof advocates regular breaks from microscopy to read high quality publications such as *Medical Student*!

Which aspect do you specialise in? I do no cytopathology, thank God, we're all specialised now, we all just do two or three things, the days where a pathologist would say I can do everything are gone, so I specialise in lung pathology, which is mainly around cancer, liver pathology, which is mainly viral hepatitis and autopsies which is my main interest. I also have a special interest in and am an expert in infectious diseases, which obviously cuts across all the specialisations in tissue pathology.

How did you first become interested in working in pathology? Actually as a medical student - when I realised that living patients with chronic diseases whinge, and I couldn't bear the thought of seeing them day after day! I like solving diagnostic problems and then going on to the next one, which is what pathology is - problem solving. Also I was inspired by a pathologist at UCH where I trained, Prof Joseph Smith.

What has your career path been? Bizarre, and unlike any-

thing you could do nowadays! In my day, there were no interviews after you had got into medical school, you simply approached someone and said "can I do this?" So I was appointed as a junior pathologist behind the bicycle sheds at UCH. The first interview I ever had was for the chair of pathology at Liverpool 20 years later. I never had an interview in between, I just "rose"! Application forms, what are they?

Nowadays, if you're good, it takes five years from doing your houseman's to get qualification. Then you get your consultant post, but once you have that, do not think that you know it all, that's when you really start learning. That's a very important point, the training takes you so far, but you also need experience.

Where has your work taken you? In terms of working abroad, Africa mainly. I've worked in Africa for two long periods, Kenya for a couple of years and the Ivory Coast for one year, and short work visits to another 15 African countries. I have been to Pakistan and

India, primarily for leprosy research and I have also travelled all over the world to teach. This is actually totally atypical for your standard pathologist, I've been very lucky.

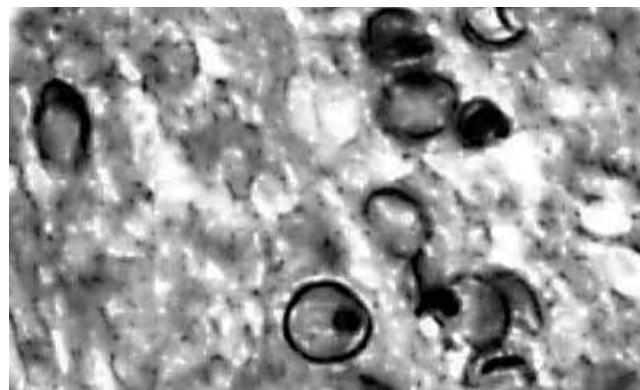
What have been the highlights of your career so far?

One would be working in Kenya when I was about 30, seeing a totally different range of diseases. Secondly, working on HIV, which was a massive project and advanced me academically - the work on that got me my chair at St Thomas'. Thirdly, a constant highlight of working at St Thomas' is the extraordinary disease mix we have here. You should appreciate that medicine in say, Cheltenham is very boring, whereas here we sit in the middle of Kinshasa essentially and we enjoy the diseases that brings with it, lots of infectious diseases, lots of bizarre things.

What kind of person would make a good pathologist?

Someone with an excellent eye, a very good memory, who has a wide knowledge base so he or she knows what diseases may occur and has an expectation for the unusual and how to sort it out. It's a visual thing - look at that...that's pneumocystis because it is, I've seen it before, that's pneumocystis and nothing else because of fourteen particular features.

Fourteen...? OK, well maybe fifteen.



Pneumocystis Jirovecii (Carinii) - obviously. Doh!

What's a typical day for you? Well it depends on who's died. So the mortuary comes first, I might be doing 1-2 autopsies in St Thomas' mortuary, about 5 or 6 a week. But it might be 3 one day none the next two. I spend time demonstrating it doctors and/or students and then writing the cases up. Then I spend time looking at consultation stuff - looking at slides I get a lot sent through the post. I get sent things from other pathologists saying "I don't know what that is, send it to Lucas, he might know".

Would you say that the general perception of what you do is accurate? No, completely inaccurate! The public think we just deal with the dead and we just deal with murder. Untrue and untrue.

Do you ever watch programmes such as CSI etc? No they're all rubbish...how much time is there in the world? If you could make those programmes into 10 minutes I might watch one, I don't have an hour to spare. They are very inaccurate, even a lot of the factual ones are.

What is the strangest thing you've seen? Seeing a bug, a type of infection that no-one else had ever seen before, and realising that this was the first time this had been seen, down the microscope - it was an aberrant cystic and metastasising form of *Hymenolepis nana* (cestode worm parasite). It was

a real Eureka moment! I'd seen a version in animals, a zoonosis problem, but it had never been documented in man...so I got a chance to show off!

The other strange part of my job is just extraordinary dead person problems, medical ones...there's nowt as queer as folk, and the things people do to themselves!

Do you have any advice for students considering a career in histopathology?

Histopathology is terrific; you see new problems every day so it is never boring. If you like visual things you'll do well, if you haven't got an eye for patterns and disease recognition then forget it. You have to have the eye, and have a good memory as I've said. If you like problem solving, if you want to deal with patients you can, there are branches of pathology which do. But if you don't like seeing patients it's also good because you can hide behind your reports! Essentially I think we see more interesting things than any other branch of medicine, because diagnostic pathology is so unpredictable, you never know what's gonna turn up!

You don't pick it up in five minutes...it is experience. If you talk to many medics, they get burn out; they get bored by about 60. In pathology most people don't, there's still enough genuinely new and interesting stuff to keep you going. For example, if you work in asthma, by the time you've got to 50 there's nothing new and you've seen it all. In pathology there's always something new around the corner, if you keep your eyes open, in other specialties you've seen it all in 25-30 years. That's because pathology sits on top of the medical pyramid - medicine without pathology isn't medicine. There's this huge block of illness, and we get the pick of what rises to the top to be solved as a problem. So we're lucky!

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