Pathology in Germany

Cologne is the host city of the International Congress of the IAP Sept 26-30, 2016. The motto for the Congress is ‘Predictive Pathology - Guiding and Monitoring Therapy’

The Institute for Pathology in Cologne epitomises this motto. The current Head of the Institute is Professor Reinhard Buttner. His Institute is responsible for a busy routine Anatomical Pathology Service with about 40,000 surgical specimens and 20,000 consultations each year, and a post mortem service that has 150 postmortems annually. (As is happening elsewhere in the world this number is falling rapidly.) The University enrolls 700 undergraduate medical students in each year of a 6 year course and the staff play a part in this teaching.

On top of this the Institute has a very busy Research programme. This Research Team was one of the first to provide next generation sequencing of DNA and RNA in routine diagnostic surgical pathology. They are concentrating on lung tumours looking for molecular alterations - mutations, translocations and amplifications in a number of genes in the tumour cells.

These mutated genes are called ‘driver mutations.’ The team is trying to see whether the various varieties of lung tumour that can be identified in H&E sections, have specific patterns of ‘driver mutations.’ Pharmaceutical companies are keen to find such ‘driver mutations’ so that they can try to manufacture specific chemotherapeutic agents with which to treat the tumours. This is aiming to produce ‘personalised’ therapy for patients with these tumours.

Commercially these tests would cost about $7,000 but because the Pharmaceutical companies are funding the research, the tests are presently free to patients.

The Institute employs 17 staff pathologists and 21 pathology trainees and PhD scientists.

Cologne University and Medical School

The University and the Hospital were established in 1388 but the University was abolished in 1798 and re-established in 1919 when Konrad Adenauer was Mayor of the city. The Faculty of Medicine was one of the original Faculties.

The present hospital has 1400 beds. Like the Insti
tute for Pathology, all the departments are engaged in service, teaching and research.

There are a number of historical memorabilia exhibited at the entrance to the Hospital and on the walls of the ground floor corridor of the hospital.

At the entrance there is a bronze bust of Albertus Major (1193-1280). He was a very distinguished scholar and teacher and a member of the Dominican order of Monks. His monastery occupied the site of the present hospital.

There is a photo of an early pathology laboratory in the hospital.

At the entrance to the student lecture theatre there are a few old pathology specimens, some of which demonstrate the gross effects of tuberculosis before the introduction of Streptomycin which produced 'magical' results in the treatment of this highly infectious disease.

Robin Cooke and Reinhard Buttner

Left: Dr. Maike Witterheim is demonstrating FISH screening to try to find an abnormal chromosome to sequence.

Left below: Samples from 16 tumours are then loaded into the cartridge of the PCR sequencing machine.

Right: Cologne Main entrance to the University Hospital

Right: The machine and the high capacity computer are kept in a cold room because each reading consists of many gigabites. (note the warm clothes of the scientist).

Below: Cologne, Institute of Pathology in the centre (the red painted building) between the heart clinic and the main hospital.

Below: Reinhard Buttner, Sigrud Las, Bruce Smoller, Martina Schmidt, Thomas Rudiger.

Below right: Cologne convention centre.

Peter Joseph Froh, Cologne Hofbrau top floor dining room with view of Cathedral.

Koln main hospital laboratory.
Federal Pathologic-Anatomical Museum, Vienna

This museum now comes under the jurisdiction of the Department of Anthropology and it is called a Collection.

Historical background

The Vienna General Hospital dates from 1686, but it was not until 1784 under the influence of Emperor Joseph 11, that it became a proper hospital with ‘wards’ for different categories of patients. A separate round, fortress like building for housing violent psychiatric patients called the Narrenturm was opened towards the back of the General Hospital in the same year. This hospital became a centre for service, teaching and research in the Medical School of Vienna which occupied a preeminent position in the middle of the 1800s.

The Frenchman, Rene Laennec (1781-1826) is best known for his invention of the stethoscope. However, he used to perform autopsies on his deceased patients and he demonstrated the usefulness of correlating the clinical findings with the autopsy findings.

This method of clinico-pathological correlation of disease was brought to perfection by the clinician Joseph Skoda (1805-1881) and the pathologist Carl Rokitansky (1804-1878) in the Medical School of Vienna, in Austria. The results of this partnership established Vienna as the leading medical centre in the world in the middle of the nineteenth century.

The Medical school of Vienna revolved around Rokitansky’s post mortem room. Skoda and his students made careful clinical examinations of their patients and kept follow-up records. Every day they attended the post mortems, where the macroscopic features of the diseased organs were correlated with the clinical features elicited in the wards. Regular bulletins of these new findings were reported and they caused such interest that the Medical School quickly became famous. This approach established the model on which scientific medicine was taught in the late 1800s and throughout the 20th century.

Rokitansky established a pathology museum in which he kept examples of as many diseases as he could find. The specimens were kept in glass containers sealed with a glass lid. Ultimately they were housed in the 139 cells that were made for inmates of the Narrenturm. Many of the barred doors to the rooms have been preserved.

By 2013 the museum has about 50,000 preparations with 25,000 being wet preparations. Active collecting ceased in 1974 but the museum is still taking objects from other museums that are closing. Samples of some of the exhibits are shown in the accompanying photographs.

The museum also has about 6,000 moulages (Wax models) the majority of which show the clinical features of dermatological diseases, particularly venereal diseases. The first ones were made by Anton Elfinger who was commissioned by Ferdinand von Hebra one of the first dermatologists. However, most of them were made by Carl Henning (1860-1917) and his son Theodore Henning (1897-1946). Carl was recruited by von Hebra’s son in law Moritz Kaposi. Carl died suddenly from the effects of a wasp sting and Theodore took over his father’s practice. The last moulages were done in 1939.

There were three major centres for Dermatological Wax models in Europe - the Hennings in Vienna, Jules Baretta at the Hopital St. Louis, Paris and Joseph Towne at Guy’s Hospital, London. The technique spread from these centres to many other places around the world. Wax dermatological moulages can now be found in Museum collections in many countries.

The present Curator of the Federal Pathologic-
The Faculty of Medicine, Dentistry and Health Sciences at the University of Melbourne has two medical-related museums of cultural and teaching significance - The Harry Brookes Allen Museum of Anatomy and Pathology and the Medical History Museum. Both play an important role in education, engagement and research.

The Medical School was established in 1853, with pathology and anatomy museums created soon after. Harry Brookes Allen (1854-1926), one of the early graduates of the Medical Course, became the Professor of Pathology in 1882. He was a dynamic man and was influential, not only in pathology but also as a governmental administrator and adviser. He left a museum with about 15,000 specimens, which was expanded by subsequent Professors. In 2004 both pathology and anatomy museums were amalgamated.

Pathology and Anatomy

The Harry Brookes Allen Museum of Anatomy and Pathology caters for the teaching of approx. 3,000 medical and science students. The anatomy specimens are displayed in association with pathology specimens that relate to them. Guided tours of the museum are also available to secondary school students and health professionals, in addition to a small program of public engagement events. These events have recently included Open House Melbourne and Nite Art, which have attracted large numbers of visitors to the museum.

The Melbourne Medical History Museum was founded by Professor Kenneth Russell (1911-1987) with a grant from the Wellcome Trust. Since its inception in 1967, the Medical History Museum has developed a diverse and varied collection of over 6,000 items encompassing documents, photographs, artifacts, ceremonial objects, medical and scientific equipment and associated research material.

A major feature of this museum is a Savory and Moore Pharmacy originally located in London at 29 Chapel Street, Belgrave.
pharmacy operated from 1849 to 1968 and the furniture and fittings were donated to the Medical History Museum in 1971 by The Wellcome Trust. It provides visitors insights into an age before the mass production of pharmaceutical products.

The Medical History Museum has an annual exhibition program encompassing themes linking scientific discovery with society and culture. The current exhibition is Compassion and Courage: Australian Doctors and Dentists in the Great War on until 30 April 2016. Open six days a week, the museum provides the opportunity for students, staff, community groups and the general public to explore the history of medicine.

Professor Robin Cooke, Jacqueline Healy, Senior Curator, Medical History Museum and Ryan Jefferies, Curator, The Harry Brookes Allen Museum of Anatomy and Pathology
http://museums.mdhs.unimelb.edu.au

Within the museum there are single study areas provided with computers.

Another specimen purchased by Halford from Paris. It is a man with the sirenomalous (mermaid) deformity. He used to earn his living by playing his flute on the steps of churches in Paris.
Below: A display of renal disease

Above: An anatomical dissection of the abdomen and upper thigh.
Right: An anatomical dissection of the medial aspect of the left ankle and foot.
Above right: A close up of the Baretta moulage of sporotrichosis of the hand with a normal hand for comparison.

Obstructive Lung Disease

Above: Lungs showing bronchiectasis
Below: An area for group teaching or study
Report from the Indonesian Division

The 18th National Congress and Annual Scientific Meeting of Indonesian Association of Pathologists in conjunction with Asia Pacific Society for Molecular Immunohistology (APSMI) Annual Meeting, November 20th-22nd, 2015, Yogyakarta, Indonesia.

There were 506 delegates and 16 speakers from overseas - Japan 7, Pakistan 2, and one from each of Saudi Arabia, Netherlands, USA, Singapore, Hong Kong, Vietnam, Australia.

There were 43 oral presentations and 126 posters from Indonesian pathologists.

Information and photographs supplied by Ery Kus Dwianingsih, Secretary of the Congress Committee and Samir Amr, Past President of the IAP.

Report from the Indonesian Division

UNSW Australia was opened in 1960 and Medicine was one of the original faculties. The first medical students graduated in 1967. A fledgling Pathology Museum of about 500 specimens had been collected by the Anatomical Pathologist at the Prince Henry Hospital that became the teaching hospital of the new medical school. Some specimens were also donated by the much older University of Sydney, and some smaller specialised hospitals. Dr. Grace Higgins was appointed to the full time staff of the School of Pathology in 1969. From then until her retirement in 2000 she was the person mainly responsible for the collection and presentation of the museum specimens.

Collection of specimens ceased in the early 1990s as a result of the world wide press and public campaign aimed at destroying pathology specimens. The Head of Pathology at that time, Prof Denis Wakefield, decided to convert the museum into a teaching facility for the 21st century. It was reorganised and prepared to be able to host visits from members of the public and Science students from Secondary Schools. This venture was well received.

In 1996 the future Head of the School of Medical Sciences, Prof Nick Hawkins, received a national learning and teaching grant that allowed him to employ a photographer to take 35mm photos of over 2000 specimens. Nick took 35mm microphotographs at low, medium and high magnifications of all the pathological entities in the Museum. He later digitised and enhanced all of these.

He used a relational database to make these and related images available on CDs and called it the IOD (Images of Disease). Prof Gary Velan later set up a website on which he placed interactive versions of some of the images and led the development of an interactive IOD app available for iPhones, iPads and Android devices. Other members of the Department are now adding to this programme.

The Museum recently moved to another location and the internal teaching and outreach programmes have been expanded.

Classes for Medical students and Science students are conducted in an interactive and informal manner. The topics are centred around pots that demonstrate some aspects of pathology. The real pathology is backed up by iPad and web-based resources.

Displays in the form of specimen pots, posters as well as Museum tours on iPads have been made with a view to teaching members of the public about ‘lifestyle’ induced diseases.

As in many types of museums an audio programme allows visitors to have a self directed tour.

Volunteers were recruited by Denis Wakefield when he first reorganised the museum. They were mainly retired doctors, scientists and others. Now the volunteers are mainly medical students who use the opportunity to improve their knowledge of pathology but also to hone their communication skills.

There is a regular maintenance programme for the specimens with dusting and replacing fixative solutions that tend to go yellow after a few years of standing. Staff are continually looking for different ways to use the museum material to make the teaching relevant and interesting in the 21st century.

Robin Cooke, Simone Van Es, Gary Velan, Nick Hawkins, Derek Williamson, Bridget Murphy, Grace Higgins and Denis Wakefield.