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# Clinical Biochemistry News

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Volume 10 Number 1 November 2004



ACBI



ACB

Newsletter of the Association of Clinical Biochemists in Ireland  
and the Association of Clinical Biochemists (Republic of Ireland Region)



**River Lee - Cork**

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## Cork – Venue for this year's ACBI Annual Conference

This year sees the ACBI Annual conference moving to Cork for the first time. The city, whose name derives from *Corcaigh*, meaning a marshy place, has a long and fascinating history, some of which is briefly outlined below. The first recorded reference to the location of Cork is attributed to Ptolemy, the Alexandrine astronomer, mathematician and geographer. Based on reports from Mediterranean shipmasters he mentions a town called “Ivuernis”, thought to be the forerunner of the city. According to tradition, however, the modern city was founded in the seventh century by St. Finbarr who established an abbey there. For a few hundred years Cork flourished as a place of learning and peace. This came to a violent end when the Vikings invaded in 820. They created their own town on an island in the River Lee. The Vikings lived and traded with the Irish for about 200 years. They were eventually defeated by Brian Boru at the Battle of Clontarf in 1014. The Irish king himself was killed while praying in his tent as the Vikings were in retreat. There followed a period of instability as rival factions tried to wrest power.

The first English invasion of Ireland took place in 1172. Henry II, alarmed at the rise of the Anglo Norman Strongbow as a force in Ireland, decided to invade and re-establish his authority. He retained control of Cork, building a wall around the perimeter of the city. The rest of the country was divided among Strongbow and others with Henry keeping a close eye on things. In 1177 Cork became a royal borough and received its first charter in 1185.

The town, with a population not exceeding 2,000, continued to flourish in the Middle

Ages becoming an important trading centre. In the 13<sup>th</sup> century Friars (both Dominican and Franciscan) established themselves in Cork. 1349 saw the arrival of the Black Death, or Plague, which was ravaging Europe at the time. About half of the population of Cork (and Europe) perished during this epidemic. In the 14<sup>th</sup> century an Augustinian Abbey was built. In 1491, after the Wars of the Roses, an English pretender to the throne arrived in Cork. His name was Perkin Warbeck, and with the support of the Mayor of Cork, John Water, they travelled to England to pursue their cause. They were captured, however, and executed. After this Cork became known as ‘rebel Cork’ a description that survives to this day (although with a different connotation). The long-term consequences of the attempted insurrection resulted in the expulsion of all Irish inhabitants from the city. This was reinforced by Cromwell who captured the city in 1649. In 1690 Cork underwent a 5-day siege by the army of William of Orange. The city was eventually captured and the walls destroyed. By this time the population had reached about 12,000. After this period Cork’s new merchant princes began to flourish. These included the Beamishes, the Murphys and the Lyonses. Cork continued to grow in population and importance in the 18<sup>th</sup> century reaching about 60,000 by 1796. During the 18<sup>th</sup> century Cork became a major producer of butter and a Butter Market was built in 1750.

During the early 19<sup>th</sup> century the population of Cork increased rapidly reaching 80,000 by mid-century. These were times of extreme poverty, hunger, and overcrowding and in the post famine period, from about 1849 on, the population of Cork fell slightly. Cork harbour became the centre of mass emigration, mainly

to the US. The 19th Century saw substantial infrastructural changes in Cork. In 1825 Cork gas lighting was initiated. The railway reached Cork in 1849 and the port was much expanded. Other milestones involved the first publication of the Cork Examiner (1841), University College Cork opened (1849), the first fire brigade formed (1877), and the first public library opened (1892).

The early part of the 20th century saw Cork heavily involved in the struggle for independence. Much of the city was destroyed during this time. City Hall, burnt down in 1920, was rebuilt in 1936 and is now one of the most striking buildings in the city.

As manufacturing industry declined in Cork in the later 20th Century unemployment reached record levels. Major industries such as Ford Automobile Company and Dunlop Tyres closed their doors in the '80's and shipbuilding also came to an end in the '80's. The 1990's saw a revival in Cork's fortunes with commercial and technology parks being created and new industries such as chemical

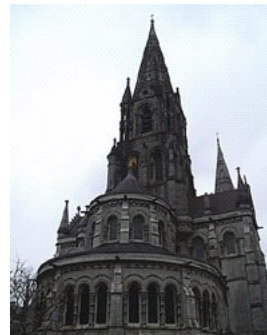
and food processing replacing the old traditionals. Tourism also plays a vital role in the local economy.

Cork has produced many noted individuals over the years. These include (in no particular order) Jack Lynch, twice Taoiseach and winner of five All Ireland hurling medals, and one All Ireland football medal (Cork are the current hurling All Ireland holders) (b. 1917), Ellen Hutchins (b. 1785) one of Ireland's greatest botanists whose collection can be seen in Kew Gardens, Cynthia Longfield, a leading entomologist and world expert on dragonflies (b. 1896), Frank O'Connor, celebrated short story writer (b. 1903), George Salmon, mathematician, theologian, and Provost of Trinity College Dublin (b. 1819), Conel Hugh O'Donel Alexander, one of Ireland's greatest chess players and expert on codes (b. 1909), and Michael Mac Liammoir, actor, painter, and writer (b. 1899).

With its many festivals (music, film, literature), and fine architecture Cork is a worthy choice for European City of Culture



**Cork City's Crest**



**St. Finbarre's  
Cathedral**



**Beamish and Crawford  
Brewery**



**Butter Market**

## *Today in Science History*

### *24th September - Notable Births*

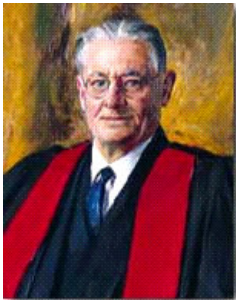
#### **Severo Ochoa**



24 September 1905 - 1st November 1993

Jointly awarded the Nobel Prize in Physiology or Medicine 1959 “for their discovery of the mechanisms in the biological synthesis of ribonucleic acid and deoxyribonucleic acid” (with Arthur Kornberg). Much of the work being done today on how genetic information is duplicated and passed on to the next generation owes its development to Ochoa and Kornberg.

#### **Howard Walter Florey**



24th September 1898 - 21st February 1967

An Australian pathologist born in Adelaide. Shared the Nobel Prize for Physiology or Medicine with Sir Alexander Fleming and Ernst Chain “for the discovery of penicillin and its curative effects in various infectious diseases”. The impact of Florey’s work on isolating, stabilising, and concentrating penicillin are incalculable. Introduced towards the end of the Second World War penicillin has saved tens of millions of lives.

#### **Georges Claude**



24th September 1870 - 23rd May 1960

French chemist and engineer. Inventor of the neon light. Neon lighting first displayed in Paris in 1910. Introduced to the United States in 1923. Claude had many other strings to his bow besides inventing the neon light. He was an accomplished chemist, developed a process to manufacture ammonia, experimented with ocean power to produce electricity, and invented low energy light bulbs. During World War 2 he supported the French Vichy Government and was jailed as a German collaborator from 1945 to 1949.

# Case Study

Supplied by Dr Peadar McGing, Principal Biochemist, Mater Hospital

The case is divided into three parts.

Part one below.

An 83 year-old man presented to his GP with a 5-day history of nausea, vomiting and intermittent abdominal pain.

On examination the patient was jaundiced.

The GP sent bloods to the lab for U&E and LFTs.

Results:

Tprot = 82, Alb = 30, Glob = 52; Bili = 100, ALP = 457 (35-130), ALT = 151 (5-40), GGT = 318 (5-55); Na = 131, K = 3.5, urea = 4.8, creat = 107.

What would your comments be on these findings.

What further tests would you recommend?

Part two on page 6

## Members' Publications

Overexpression of the Ets-1 transcription factor in human breast cancer. Buggy Y, Maguire TM, McGreal, McDermott E, Hill AD, O'Higgins N, *Duffy MJ*. Br J Cancer, 2004 Sep 7 (Epub ahead of print).

Magnesium homeostasis and anti-psychotic induced QTc elongation. Meenagh, Mulholland C, *Ryan MF*. J Psychopharmacol, 2004, Sep; 18(3):438-9.

Impact of the MTHFR C677T polymorphism on risk of neural tube defects: a case control study. Kirke PN, Mills JL, Molloy AM, Brody LC, O'Leary VB, Daly L, Murray S, Conley M, *Mayne PD*, Smith O, Scott JM. BMJ, 2004, June 26; 328 (7455): 1535-1536.

### The chicken conundrum

Bill Clinton - I did NOT see that chicken cross the road.

George W Bush - I say let the chicken decide. Government needs to get off the back of the over-regulated chicken.

GW again - We don't really care why the chicken crossed the road. We just want to know if the chicken is on our side of the road or not. The chicken is either with us or against us. There is no middle ground.

John Kerry - Although I voted to let the chicken cross the road, I am now against it.





## Case Study Part 2

The abnormal LFTs were flagged on the lab computer system and were phoned to the GP who arranged an urgent outpatient appointment for three days later.

In OPD he had repeat biochemistry tests including

T<sub>prot</sub> = 85, Alb = 34, Glob = 51; Total Bili = 58, ALP = 446 (35-130), ALT = 140 (5-40), GGT = 264 (5-55); Na = 134, K = 3.8, urea = 4.2, creat = 95.

He also had CEA measured = 1.0 (ref 0-5).

Haematology included Hgb = 10.4 (13-18), Hct = 0.316 (0.40-0.54), rbc = 3.56 (4.5-6.5), wbc = 7.15 (4-11), Plt = 477 (150-400).

Abdominal ultra-sound was carried out and arrangements were made to have him admitted to the Medical Emergency Unit the next week for further investigation.

Comment on the biochemistry results (including the CEA).

What might be seen on the ultrasound and what further tests/procedures might be planned?

Answer on page 7.

### Registration issues and employment in the UK

Dr Thomas Smith, Chairman of the ACB (Republic of Ireland Region) writes:

For those of you who may be interested in career positions in the United Kingdom or Northern Ireland, we wish to draw your attention to the content of an article in the June issue of the ACB newsletter, pages 16-18, on state registration of Clinical Scientists.

Currently, it is a legal requirement that Clinical Biochemists be state registered with the Health Professions Council (HPC) in order to take up employment in the UK or Northern Ireland. It also appears that it may be necessary to possess HPC registration in order to be eligible to apply for posts in the UK or Northern Ireland. If there is a possibility that you want to be considered for such posts at some stage in the future you need to follow the advice provided by Graham Groom in the newsletter article.

Registration appears to be open to Clinical Biochemists in the Republic of Ireland under the "grandparenting" clause, provided they meet the necessary requirements. However, applications need to be submitted now in order to avail of this option. Access to the HCP "grandparenting" route will cease in spring 2005. Those not qualifying under the "grandparenting" route are urged to submit their applications before the end of this current year.

## Case Study Part 3

### Answer

The abdominal ultrasound showed gallstones but also lesions on the liver raising suspicions of metastatic cancer. The stones were removed by ERCP three days later. The patient's symptoms resolved and his LFTs improved slowly.

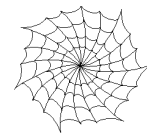
Unfortunately further radiology showed small metastatic deposits in his liver and lung. Liver biopsy showed adenocarcinoma which was considered to be secondary to upper GI or prostate. Though PSA was elevated at 5.6 (ref 0-4) and had risen from 3.2 eighteen months earlier, because of his age and normal PR examination

GI was considered the more likely site. OGD (Oesophago-Gastro-Duodenoscopy) showed the primary to be a large tumour in the lower third of the stomach.

It is interesting to briefly reflect on the role of biochemistry in this case. LFTs gave a classical picture of obstructive jaundice and pointed the way to the diagnosis of gallstones made by radiology. But the ultrasound was what led to diagnosis of cancer. Despite this being a metastatic adenocarcinoma of the GI tract, the CEA was entirely normal, highlighting the point that although serum tumour markers can play a role in decision making they cannot rule out cancers even when low levels are found.



### Interesting Websites



[www.lipidsonline.org/](http://www.lipidsonline.org/)

Extensive online site offering numerous resources for atherosclerosis and other lipid disorders. It has slide libraries, commentaries on the latest trials and research, and audiovisual resources with presentations on various aspects of dyslipidaemia. Presentations include streaming video and audio, slides, text, and references. An internet broadband connection would be required to view the videos without tearing your hair out. Also included on the site is an update on to the Adult Treatment Panel III (ATP III) guidelines on lipid management, based on data from five major clinical trials published after the ATP III guidelines. The implications for

risk categorization and treatment using the new guidelines are reviewed. An excellent site.

[http://dietary-supplements.info.nih.gov/Health\\_Information/IBIDS.aspx](http://dietary-supplements.info.nih.gov/Health_Information/IBIDS.aspx)

If you want to know all about nutritional supplements this is the site for you. International Bibliographic Information on Dietary Supplements, to give it its full name, is a fully searchable database which allows you to type in your query or chose from a drop-down menu. Enter the supplement and you will be taken to relevant published abstracts. Citations are available from 1986 to the present. 'Ginseng' yielded 1200 hits, 'caffeine' over 5,000.

# European News

**The following message was received from Victor Blaton, FESCC President under the title Education & Training in Clinical Chemistry & Laboratory Medicine.**

Dear Colleagues,

In March 2003 an agreement was signed on inter-university co-operation between the Charles University in Prague and the Forum of the European Societies of Clinical Chemistry and Laboratory Medicine – FESCC, representing this field in all countries of Europe. Its primary aims are to advance science and medicine in general, to organize scientific and educational events, to co-ordinate activities in the field in Europe and to seek to further European co-operation and harmonization. In September 2003 an official celebration took place in Hradec Králové. Education and training of specialists in Laboratory Medicine have to meet stringent requirements within a fast evolving medicine. Plain and efficient programmes must be presented and

evaluated and deserve harmonization within the new Europe

Attention should also be given to the supplementing character of examination and implementation. That is the reason why the European Education and Training Centre for Laboratory Medicine FESCC and Charles University Carolinum Prague will organize a discussion forum on *“Postgraduate Education of Clinical Chemistry in the EU”* organised by the Czech Society for Clinical Biochemistry in Prague at the Hotel Extol Inn **November 12 – 14, 2004.**

Topics include *the Role of European organizations in postgraduate education, Education in the electronic era, and Organizational aspects of postgraduate education.* For further information contact:

Symposium Secretariat:  
Congress Business Travel Ltd. (CBT)  
Lidická 43/66  
150 00 Prague 5, Czech Republic  
Phone: +420-224 942 575, 224 942 579  
Fax: +420-224 942 550

## Odds & Ends

Anyone who has suffered from gout will empathise with Benjamin Franklin. He suffered greatly from the condition, so much so that he wrote a dialogue between himself and “Madam Gout” (he interestingly feminized the condition) beseeching relief. Madam Gout had no sympathy with his philosophising, slothful ways. The dialogue can be found at [www.bartleby.com/109/3.html](http://www.bartleby.com/109/3.html).

### Did You Know

....that if you extracted all the DNA in your body it would fill two tablespoons full and would stretch from the earth to the moon for five million round trips.

....that compared to the number of human chromosomes (46), turkeys have 82, sweet potatoes have 90, goldfish have 94, and

ferns have 480.

### Presidential Pulse

Have a look at [www.doctorzebra.com/prez/g43.htm](http://www.doctorzebra.com/prez/g43.htm) for some fascinating, if voyeuristic, detail on US presidential health matters from birth onwards. Information is being added as it becomes available but it makes for scary reading sometimes.