BJUI SUPPLEMENTS

BAUS Annual Meeting, 20–23 June 2011, The BT Convention Centre, Liverpool

Unmoderated Poster Sessions

Tuesday 21 June 2011
Unmoderated Poster Session 1
13:15–13:45 Exhibition Hall (Hall 2)
HISTORY OF UROLOGY
Posters U1–U24

Wednesday 22 June 2011
Unmoderated Poster Session 2
13:15–13:45 Exhibition Hall (Hall 2)
HISTORY OF UROLOGY
Posters U1–U24

BJUI SUPPLEMENTS

Tuesday 21 June 2011
Unmoderated Poster Session 1

Wednesday 22 June 2011
Unmoderated Poster Session 2
13:15–13:45 Exhibition Hall (Hall 2)
HISTORY OF UROLOGY
Posters U1–U24

U1

'Brighter scope for endourology' – the story of Karl from Tuttlingen

JR Bhatt, NA Haldar
Wycombe Hospital, High Wycombe, United Kingdom

Introduction: Karl Storz is a well-known name in the surgical world. Little is known of the man who started his journey at the end of the Second World War to transform the art of instrument making, especially in endourology. This article explores his life story.

Materials and Methods: A PubMed, Medline and Google search on Karl Storz

Results: Karl Storz was born in Tuttlingen, Germany, in 1911. After school, he worked alongside surgeons, and became an expert in surgical anatomy and instrument making. In 1945, he started his own company specialising in ENT instruments. He faced challenges due to post-world war politics until the reform policy of 1949. His interest in optical systems deepened. He realised that for better visualisation, 2 modalities had to be improved greatly: optics and illumination.

In 1960, he saw Hirschowitz's first flexi-gastroscope. He thought of an idea to use flexible glass-fibres to transmit light from an exogenous light source. Patenting this in Stuttgart the next day, he ushered in the cold light.

Five years later, he came across the work of Hopkins, a British physicist, who invented the rigid glass-rod lens, but sadly failed to find support in UK or USA. Karl Storz realised the potential of this remarkable invention, and offered to support Hopkins's work. This partnership revolutionised the world of endoscopy.

Conclusions: Karl Storz is best known for his investment in the Hopkins system and addition of his own cold light. He was a forerunner of European and global co-operation despite the Cold War.

U2

Anderson Hynes pyeloplasty – the gold standard

S Venugopal, J Den, J Hall
Royal Hallamshire Hospital, Sheffield, United Kingdom

Despite the various modifications and advances in endoscopic management and other minimally invasive techniques, dismembered pyeloplasty has remained the main stay of treatment for Pelvi-Ureteric Junction obstruction. The plastic operation devised by the unlikely team of a general surgeon and a plastic surgeon from Britain has stood the test of time and has gained the status of gold standard in treatment.

James Christie Anderson (1899–1984): Jock as his friend called, was born and educated in Dundee. He was appointed to Royal Hospital, Sheffield as a Consultant General Surgeon in 1934. He had a special interest in Urology and went on to become the president of the Urology section of Royal Society of Medicine and hosted the annual BAUS meeting in Sheffield in 1962. He was awarded OBE and TD for his services during war.

Wilfred Hynes (1903–1991): He was born and educated in Leeds. He was appointed to Royal Hospital, Sheffield as Consultant in General Surgery and then formed the Department of Plastic Surgery in 1945, heading it till retirement. He was the president of the British Plastic Surgeons Association and Hunterian Professor of The Royal College of Surgeons.

We describe the coffee table discussion between two inquisitive minds that had come together from different specialities to solve a complex problem.

Information was collected from the internet, medical journals and interviewing former colleagues.

We also describe the original publication and drawings, while looking at the timeline of pyeloplasty and long term results.

U3

Professor Ludwig Rein (1849–1930): discovery of an 'occupational cancer'

R Nair, S Sriprasad, JS Green, T Philp, JL Peters
Whipps Cross University Hospital, London, United Kingdom

Introduction: In 1895, Professor Ludwig Rein delivered a seminal lecture titled 'Bladder tumours amongst fuchsin workers'. This was the first observation looking at the relationship between occupation and urothelial malignancy. We examine this contribution Professor Rein made to urology and epidemiology.

Methods: Time related sources and manuscripts from the archives of the

Wellcome History of Medicine Collection, Royal Society of Medicine, and the Centre of Anthropology, London were evaluated.
Results: The 1860s saw many Germans return home from England to expand a local synthetic dye industry. German surgeon Rein demonstrated an increase in bladder tumour amongst workers using aniline dyes at a chemical factory in Hoechst. He described these cases as 'occupational cancers'.
Rein described each case of bladder tumour he encountered, depicting their individual care, treatments, and progress made. He also described groups of symptoms encountered including haematuria, dysuria, and stranguria.
Rein postulated that gases inhaled from fuchsin lead to a urinary disorder. Prolonged contact resulted in bladder tumours.
Despite this correlation his contemporaries devalued his findings for fear of dissolving a thriving textile industry. Rein stated: 'It all came to nothing. I had pointed quite clearly to the great importance of the aniline factor in view of the aetiology of cancer. It was in vain'. It was decades later when 'Aniline Cancer' was legally recognised an occupational malignancy.
Conclusion: Ludwig Rein's observations have remained true fuelling a desire to further relationships behind urothelial malignancies. His work has added a valuable chapter to epidemiology allowing further development in 'occupational cancers'.

U4
From battlefield to modern day – a historical review of catheter management in spinal cord injured patients over the last century
M Biers, PJ Guy
Duke of Cornwall Spinal Treatment Centre, Salisbury District Hospital, United Kingdom

Introduction: Over the last 100 years, morbidity and mortality due to urological complications of spinal cord injury (SCI) has dramatically decreased. We review improvements in bladder management.
Methods: A literature search was performed from 1900 to 2010, identifying documents relating to SCI, bladder management, catheterisation and outcomes.
Results: In 1917, an 80% mortality rate was reported from UTI in soldiers rendered paraplegic from gunshot wounds. It was believed that avoiding catheterisation would reduce infection. This changed in World War II. With increasing neurosurgical expertise, better facilities and antibiotics, larger numbers of soldiers with SCI were evacuated from the field with a suprapubic cystotomy. Predominant causes of death remained urosepsis and uraemia, however, 50% of SCI patients eventually survived 25 years. The death rate of service men injured in the Vietnam conflict was 20%, however, only 22% were renal-related, half that of previous conflicts. Renal-related mortality is now 0.5%. Further improvements evolved with the greater recognition of the neuropathic 'bad' bladder initiated by Hutch and Bunts in 1951. The concept of outflow resistance developed in the 1940s and 1950s by Seamans and Bunts. Guttman introduced intermittent self catheterisation in 1966, which evolved into the gold standard, clean intermittent self catheterisation.
Conclusions: The combination of good bladder drainage, antibiotics and good pressure care has seen a dramatic reduction in the death rate from lower urinary tract and renal complications in SCI patients from over 80% in the early 20th century to around 5% at the beginning of the 21st.

U5
Say yes to 'NO': the discovery of nitric oxide and the treatment of erectile dysfunction
Z Fazili, S Shah, HP Marsh, S Masood
Medway Foundation Trust Hospital, Gillingham, United Kingdom

Introduction: The discovery of phosphodiesterase inhibitors led to a revolution in the treatment of erectile dysfunction (ED). This was a result of the discovery that nitric oxide (NO) is the neurotransmitter responsible for blood vessel regulation essential to penile erection.
Methods: A systematic search of online and published material was conducted including original articles and papers.
Results: The discovery of NO began when Sobrero Ascanio invented nitroglycerine in 1846. Alfred Nobel developed nitroglycerine as an explosive. In 1867 he patented the material under the name of dynamite.
When Nobel suffered from angina, he was prescribed nitroglycerine. He refused to take it, as he had learned from the workers in his dynamite factory that it caused severe headache. Before his death he wrote 'Isn't it the irony of fate that I have been prescribed nitroglycerine to be taken internally'.
Ferid Murad in 1977, Louis Ignarro in 1979 and Robert Furchgott in 1980 independently demonstrated that NO relaxes smooth muscle and were awarded the Nobel prize in 1998.
In the mid eighties Jacob Rajfer a urologist at UCLA, was trying to find the cause of ED. He met Ignarro who discovered that NO caused smooth muscle relaxation. Together they carried out experiments on tissue from corpus cavernosum. They showed the role of NO in penile erection and so laid the foundation stone for the later development of sildenafil.
Conclusions: The discovery of NO and its effect on the relaxation of blood vessels was a key stage in the development of the phosphodiesterase inhibitors.

U6
The etymology of proteus: an evolution from mythology and history to present day
SV Sellaturay, S Sriprasad, H Marsh
Darent Valley Hospital, Dartford, United Kingdom

Introduction: It is common urological knowledge that proteus bacteria are associated with urinary infections and stone. Far more interesting is the etymology of the word proteus and we investigate the origin of the word proteus, its mythological, historical and literary connections and evolution of the nomenclature from 800 BC to present day usage.
Methods: A search for pertinent primary and secondary sources were undertaken using the library and the internet.
Results: Proteus is well known in Greek mythology as an early sea god, noted for being very versatile and capable of assuming many different forms. In the 8th century BC Homer, famous for his epic Greek poems the 'Iliad' and 'Odyssey', describes Proteus as a prophetic old sea-god, and the herdsman of the seals of Poseidon, God of the Sea.
In 1590, Shakespeare re-introduces Proteus into English literature in 'The Two Gentleman of Verona', as a main character who has inconstant affections.

Today the word 'protean' means changeable or variable. The severely disfiguring disease, which afflicted the 'elephant man', consisting of variable tumours affecting the body is therefore known as Proteus syndrome and is particularly difficult to distinguish from neurofibromatosis.
Proteus bacteria directly derive their name from the Sea God, due to their rapid swarming growth and motility on agar plates. They demonstrate their versatility by secreting various enzymes and ability to inhibit growth of unrelated strains resulting in Dienes lines where swarming strains intersect.
Conclusion: Thus proteus, true to its name, has had a myriad of connotations over the centuries.

U7
Professor Ludwig Guttmann – transforming the urological care of spinal injured patients
JM Henderson, J Bhatt, T Fung, J Reynard
Wycombe Hospital, United Kingdom

Introduction: In 1944, the life expectancy for a patient with spinal cord injury was three months. Pressure sores and urinary infections accounted for the majority of deaths. Guttmann's early understanding of the neuropathic bladder revolutionised the care of these patients, establishing principles that are universally practiced today.
Methods: A hand search of original material at the Wilfred Stokes Library, Stoke Mandeville was carried out and relevant books and papers obtained. Additional information was obtained from 'The "Poppa" Guttmann Recognition and Celebration Project' and by contacting patients who were under his care.
Results: Spinal injuries patients held a lifelong fascination for Ludwig Guttmann from voluntary work after school to his appointment as director of the Stoke Mandeville Spinal Injuries Centre in 1944. Guttmann recognised the importance of bladder drainage and advocated no touch intermittent catheterisation (NTIC). Leading authorities at the time advocated the technique of cutaneous vesicostomy for spinal patients and dismissed NTIC as 'certain to lead to disaster'. Guttmann opposed this view and presented the complications of cutaneous vesicostomy. He understood that indwelling catheters and foreign bodies became colonised with bacteria and demonstrated that NTISC maintained the sterility of urine and reduced the complications of bladder calculi and fistulae.
Conclusion: The vision and determination of Professor Guttmann in the care of spinal injuries patients revolutionised their care and established firm principles which are widely used today. He recognised the importance of bladder management but also the wider holistic care of his patients.

U8
The urinary catheter – 2000 BC to 2000 AD
W Knight, CJ Dowson, D Hodgson, B Walmsley
Queen Alexandra Hospital, Portsmouth, United Kingdom

Introduction: Whether to relieve obstruction, manipulate stones or even to introduce medicaments the urinary catheter is an essential surgical aide. Although the exact origins are lost in the mists of time its evolution is well documented throughout medical history.
Methods: We reviewed historical and surgical texts in order to chart the evolution of this indispensible surgical tool.
Results: Although the Greek physician and anatomist Erasistratus is said to have 'invented the catheter' it would have undoubtedly been familiar in some form or another to physicians throughout antiquity, including the Chinese who are said have utilised onion stems or the Ancient Egyptians who employed papyrus. Several notable surgeons in the first millennia BC describe catheters including Soranus (138 AD), Albucasis (936 AD) and Avicenna (980 AD) who stressed a technique of gentle insertion using soft catheters made from animal or fish skins in order to minimise trauma. Throughout the middle ages a plethora of materials were employed to manufacture the devices but it was not until the eighteenth century that a flexible catheter was purportedly developed by Benjamin Franklin, (although this is contentious). Availability of rubber in the nineteenth century saw the development of catheters we would recognise today including the 'Jaques', 'De Pezzer' and 'Malecot'. Finally in the early twentieth century Dr Foley introduced the catheter we are most familiar with.
Conclusion: The urinary catheter has and remains an essential tool in the physician's armamentarium. It has constantly evolved over thousands of years and will continue to do so in the future.

U9
Fournier's Gangrene before Fournier
SJS Grimsley, RC Nayar, C Luscombe
University Hospital North Staffordshire, United Kingdom

Fournier's gangrene, a rapidly advancing necrotising fasciitis of the genitalia is named for Jean Alfred Fournier (1832–1914), a Parisian Dermatologist/Venereologist who described the condition in 1883. However he was not the first to describe it and several historical figures are suspected of contracting it.
Herod the Great King of Judea 40–4 BC the death of Herod is described by Flavius Josephus's Antiquities as being agonising. Itching, abdominal pain, oedema and finally:

'Nay, further, his privy-member was putrefied, and produced worms'.

Modern sources have suggested Fournier's gangrene as cause of death.
It has been speculated that his grandson Herod Agrippa died from the same condition in 44 AD; he is described in Acts as being struck down and eaten by worms before his death.
Galerius Roman Emperor from AD305–311 Galerius' death was described by Eusebius. His genitals became inflamed, ulcerated, worm infested and began to swell and rot on his body. Galerius' doctors were unable to endure the stench.
Segundo Ruiz Belvis, a Puerto Rican Abolitionist and Revolutionary who died in 1867 from a condition related to tightness of the urethra now thought to be Fournier's gangrene.
Baurienne The first medical description of progressive scrotal gangrene was published by Baurienne in 1764 'Sur une Plaie contuse qui s'est terminée par le sphacele de tout le scrotum'.
Baurienne describes onset of gangrene following being gored by an ox with several features of Fournier's – the requirement of repeated debridement, preservation of (one of) the testes and recovery/regrowth of skin following complete debridement.

U10

Eponymous Anonymous: the men behind the names

TG Rashid, TB Smith, AK Prasad, TJ Dudderidge, TJ Christmas
Charing Cross Hospital, London, United Kingdom

Introduction: Urological surgery has progressed from ancient to modern times, flanked by the evolution of surgical instruments. Our illustrious predecessors have lent their names to the tools which are placed at our fingertips daily. But have you ever really considered the lives and achievements of the inspirational men behind them?
Materials and Methods: Extensive research through archived material including historical literature, personal accounts and published obituaries from the British Museum, the Wellcome History of Medicine Collection and Hunterian Society Collections was performed. An additional systematic search of online material including original articles and papers was conducted.
Results: We provide an insight into the origin of eponymous urological instruments, as well as the life, works, achievements and fascinating stories related to the men behind them. Instruments of interest include: the Ellick evacuator; the Terence-Millin, Derek-Browne and Turner-Warwick retractors; the Chevassu, Malecot and Foley catheters; the Otis urethrotome; Clutton sounds; the Collings and Guthrie knives and others.
Conclusion: This epitaph honours the remarkable men behind the names of commonly used eponymous instruments in urology. They remain an inspiration to modern surgeons and we celebrate their place within the pantheon of surgery.

U11

The development and evolution of suburethral sling surgery

IP Wharton, T Maguire, DG Tincello, CJ Mayne, TR Terry
Leicester General Hospital, United Kingdom

Although, in recent years, sling surgery has revolutionised the minimally-invasive treatment of stress urinary incontinence, its inception dates back to 1907, when Von Giordano wrapped a gracilis muscle graft around the urethra. In 1910, Goebell described the first true pubovaginal sling using freed pyramidalis muscles joined suburethrally. Frangenheim (1914) then modified this abdominal procedure to use rectus abdominis muscle. As the long-term viability of these highly mobilised grafts was difficult to maintain, muscle slings were subsequently abandoned in favour of fascial slings.
In 1942, Aldridge described an abdominovaginal technique that has become the basis of modern fascial sling surgery using external oblique aponeurosis. McGuire and Lytton (1978), and then Blaivas and Jacobs (1991) subsequently modified the procedure by using rectus sheath and perforating the endopelvic fascia from below, respectively.
However, problems with autologous graft harvest (inadequate length, poor tissue quality, harvest site complications) led to the use of synthetic graft materials. In 1956, Bracht used nylon, and later Silastic®, Mersilene®, Marlex® and Gore-tex® slings were all investigated. Complications with these materials included abscess formation and tissue erosion. In 1995, Ulmsten and Petros described the tension-free vaginal tape procedure, which incorporated several materials in the original series. However, since 1996 the readily incorporated polypropylene macroporous monofilament mesh has been used. Delorme (2001) also favoured this material for his transobturator tape procedure, which positioned the sling entirely below the endopelvic fascia and minimised the risk of bladder/bowel perforation. Most recently (Matan 2007), 'mini-sling' procedures via a single vaginal incision have used this mesh.

U12

The Chimney Sweeper's Cancer: contributions of Sir Percival Pott

S Hanchanale, Hemant Nemade, Amrith Raj Rao
York Teaching Hospital NHS Foundation Trust, United Kingdom

Introduction: Being hailed as one of the greatest surgeons, Percival Pott worked at St Bartholomew s hospital from 1744 to 1787. The eponyms include Pott s fracture, Pott s spine, Pott s puffy tumour and indeed Pott s Cancer. We present Pott s work on Cancer of the scrotum, which has been heralded as the first epidemiological study of an industrial carcinogen.
Materials and Methods: Manuscripts including the original works were studied in detail. Visit to St Bart's museum also helped in collecting rare images.
Results: At the age of 17, Percival Pott was introduced to Edward NouseJr, a surgeon at St Batholomew s hospital. In 1736, having qualified for the Grand Diploma by the Court of Examiners, he worked at Barts until his retirement in 1787. In 1775, Pott published a book which contained his experiences with common surgical problems. In six brief pages, titled 'Cancer Scroti' he reported a curious prevalence of ragged sores on the scrotums of many chimney sweepers. Contrary to others who believed it to be a sexually transmitted disease, Pott established the cause as the lodgement of soot in the rugae of the scrotum. His work initiated one of the first epidemiological surveys of coal tar-induced cancer. His contribution towards the understanding of tuberculosis of the spine is also well remembered.
Conclusion: Historians have referred to Pott's report on scrotal cancer as a milestone in the fields of chemical carcinogenesis, preventive oncology, environmental health, and occupational medicine.

U13

Evolution of the catheter – from onion plant to the modern era and beyond

ZA Cheema, A Goyal, G Rix, J Corr, Z Maan
Colchester Hospital University NHS Foundation Trust, United Kingdom

Records of urethral catheterisation for urinary retention date back to the writings of the ancient Egyptians and Chinese physicians. The hollow green leaves of an edible vegetable Allium fistulosum (from the onion plant family) and curled up palm leaves were used to drain the bladder. Sushruta described the tubularisation of soft metals including gold to evacuate urine from the bladder (1000 B.C.). Around 300 B.C. Erasistartus used the word 'καθετήρ' to describe an instrument that is used to drain the bladder. Classic 'S' shaped catheters were found during the excavation of Pompeii, fixing the date to the well documented volcanic eruption in 79 A.D. Fabricius of Acquapendente (1537–1619) developed semi rigid catheters made of cloth, impregnated with wax and moulded on silver sound. During the 18th Century

flexible catheters of coagulated latex with silk and varnish were developed. It was Theodore Ducamp in 1882 whose work using inflatable bags on bougies of gold beater's skin along with ox submucosa paved the way to the first self retaining catheter. This idea was also taken on by Reybard (1795–1863) who described the self retaining balloon catheter in his treatise. Through this giant evolutionary step the modern catheter was soon refined. With the modern use of latex and chemical material in catheter production the problems of allergy, inflammatory reaction, biofilm formation and antibiotic resistance now need to be addressed. By applying the lessons of history to these modern challenges we explore the future design of the catheter and its further evolution.

U14

A UK perspective on the development and history of percutaneous nephrolithotomy (PCNL)

G Rogers, T Page, P English
Freeman Hospital, Newcastle-upon-Tyne Hospitals NHS Trust, United Kingdom

Introduction: It is in relatively recent years that multiple treatment modalities for renal stones have become available. Percutaneous nephrolithotomy (PCNL) is now routine. Surgeons from the UK have played an important role in the development of PCNL.
Material and Methods: A web-based literature search was performed to identify books, journals and online resources reporting on PCNL development and used to construct an accurate account.
Results: Development of percutaneous stone surgery relied on the ability to access the renal collecting system. The first description of percutaneous nephrostomy was published in 1865 by the London physician Thomas Hillier, who repeatedly drained a 4 year old boy's kidney. Unfortunately his example was not followed and it was not until 1955 when Goodwin described percutaneous needle puncture of a hydronephrotic kidney that its potential was realised. However it was not until the 1970's, when the first PCNL was described in 3 patients by Fernstrom and Johansen from Sweden. Throughout the 1980's London based urologist John Wickham was instrumental in the development of the PCNL technique. Along with the likes of Alken and Marberger in Europe and Clayman, Smith and Segura in the USA, he is considered one of the forefathers of endourology. The popularity of PCNL dipped with the concurrent advent of ESWL, but has returned as the limitations of ESWL have been realised.
Conclusions: The development of PCNL was dependant on radiological and urological advancements. It has significantly reduced the need for open surgery and ongoing technological advancements continue to refine the technique.

U15

An encyclopaedia of the images on the art of uroscopy

AR Rao
Kings College Hospital NHS Foundation Trust, London, United Kingdom

Introduction: Uroscopy, the art of examining the urine has been described since antiquity and was the most important part of examination of a sick patient. This research has focused on the journey of this fascinating art, particularly collecting the beautiful depiction of Uroscopy.
Materials and Methods: Extensive literature review was carried out. Art museums with images of uroscopy were also corresponded with. Personal visit to the Wellcome Library and British Library also immensely helped with the research.
Results and Discussion: Examination of the urine probably started with the birth of civilization itself. Uroscopy has been documented in the medical texts of the ancient Egyptians, the Vedic scriptures, the Babylonians and the Sumerians. Authorities such as Hippocrates and later Theophilus wrote in detail on examination of the urine. Starting from the Middle-Ages and through to the Renaissance, Uroscopy has been captured on some of the most beautiful paintings, stained glass, miscericods, medieval manuscripts and text books. To help disseminate the knowledge of Uroscopy, 'urine wheels' were devised. Unfortunately, this art was soon exploited by quacks and the profession fell into disrepute. Up until end of the middle ages, the symbol of medicine was a physician looking at a flask of urine. This however changed to the Rod of Asclepius as Uroscopy fell into disrepute.
Conclusion: Historical examination of urine through ages is one of the most exciting journeys for an historian to unravel. The paintings and the images of Uroscopy are one of the most beautiful in the medical field.

U16

Weigert-Meyer Rule: a historical perspective

SI Itam
Royal Sussex County Hospital, Brighton, United Kingdom

Weigert-Meyer Rule: In complete ureteral duplication, the ureter from the upper pole of the kidney opens infero-medial to the ureter from the lower pole.
How did two non-urologists discover a rule that still holds true today, more than 100 years since its inception? Carl Weigert was of Jewish ancestry and perhaps experienced some injustices because of his heritage, yet his standing in the history of medicine is irrefutable. Robert Meyer was from a close knit musical family but tragically lost his father at age 15, yet his research has helped inform medicine today. Initially it was Weigert in 1877 who noted that in a duplex ureteric system, the ureter from the upper pole drained inferior to the ureter from the lower pole. In 1907, Meyer noticed that in addition, the upper pole drainage was medial to the ureter from the lower pole. Collectively this became known as the weigert-meyer rule. Ureteral duplex occurs in 1 in 125 individuals and results from 2 ureteral buds forming 2 distinct ureters within the single kidney. Weigert, an eminent professor of pathology was more recognised for his crucial role in staining of bacteria and neuropathology; whilst Meyer made an invaluable contribution to gynaecological histology. Yet these two scholars made assertions that today hold true, with few exceptions. More than 100 years on from the origin of the Weigert-Meyer rule, there is still no agreed consensus why this rule is observed. Attempts have been made to demystify it with embryology theory which often is complex.

U17

In search of giants: John Hunter, venereal disease and a noble failure

LAM Kelly, P Dasgupta, N Cambridge
University of Birmingham, United Kingdom

Introduction: John Hunter's 'Treatise on the Venereal Disease' was published in the

eighteenth century at a time of great debate as to the nature of venereal disease. Then, the unicists believed it was one disease; whereas the dualists believed it was two separate diseases: gonorrhoea and syphilis. Hunter's treatise is now remembered as a failure for it incorrectly 'proved' the unicist theory correct. What I hope to demonstrate is that Hunter's work is better seen as a noble failure.

Materials and Methods: A literature search was conducted for works relating to venereal disease in the eighteenth century and John Hunter's 'Treatise on the Venereal Disease'. This utilised the collections of the University of Birmingham, Eighteenth Century Collections Online and Periodicals Archive Online. This research was utilised to contextualise Hunter's work and assess its impact.

Results: The literature shows that John Hunter's Treatise on the Venereal Disease was hampered by a lack of technologies that would prove vital in correctly defining venereal disease. Hunter's account of his methods was to be reproduced by those who would find the correct proof. His treatise was commended for the descriptions of venereal disease and surgical techniques it contained.

Conclusion: Hunter's methods were to provide the eventual inspiration for the correct solution to the venereal puzzle. Thus, if as Isaac Newton said, knowledge is to be gained 'standing on the shoulders of giants', I propose that John Hunter's 'Treatise on the Venereal Disease' is just such a 'giant' on which his successors work stood.

U18

The evolution of adrenal surgery

THM Fung, JR Bhatt, JM Henderson, NA Haldar
High Wycombe Hospital, United Kingdom

Introduction and Objectives: Since its introduction in the late 18th century, adrenalectomy has held an important place in the management of adrenal tumours. This report discusses the evolution of adrenal surgery.

Materials and Methods: MEDLINE and EMBASE were used to search for the evolution of adrenal surgery. Medical literature and historical journals were also reviewed.

Results: John Knowsley Thornton is credited with performing the first reported adrenalectomy in London 1889, removing a 20lb adrenocortical carcinoma during radical nephrectomy. Thornton employed a T-shaped subcostal incision, an approach previously described in 1882 by Carl von Langenbuch for cholecystectomy. In Lausanne in 1926, Cesar Roux described a flank approach to the adrenal glands, which Charles Mayo used in 1927 to perform the first adrenalectomy in the United States for a phaeochromocytoma. A variety of different approaches to the adrenal glands subsequently evolved, with Lennox Broster of London in 1932 devising a transpleural, transdiaphragmatic approach and Hugh Young of Baltimore in 1936 describing a posterior approach, permitting simultaneous exposure of both adrenal glands. These approaches remained unchallenged until 1992, when Michael Gagner and Joseph Petelin described the first successful case of transperitoneal laparoscopic adrenalectomy in a patient with an adrenocortical tumour. More recently, Horgan and Vanuno have demonstrated the safety and efficacy of robotic adrenalectomy.

Conclusions: For almost a century, surgical removal has been the mainstay of therapy to manage adrenal tumours. The early open operative methods have now been largely replaced by the use of minimally invasive laparoscopic and robotic adrenalectomy.

U19

Reginald Harrison (1837–1908): pioneering urologic discoveries in late 19th century England

MP Pitman, PJ Cheetham, AE Katz
Columbia University Medical Center, New York, United States

Introduction: A little-known figure in the modern urologic community, Mr. Reginald Harrison made enormous scholarly contributions to urology, particularly in the fields of bladder stones and prostate disease.

Methods: Review of published and online historical materials.

Result: Reginald Harrison was born in Stafford on August 24, 1837. He became a member of the Royal College of Surgeons in 1866, and soon became a pre-eminent expert in urology. He authored a well-known textbook, 'Surgical Disorders of the Urinary Organs', as well as a number of original papers. In 1881, he reported on 'A Case of Lithotomy where a Tumour of the Prostate Was Successfully Enucleated', becoming one of the first physicians ever to describe the surgical excision of a prostate tumour. Harrison was among the first to recognize the high frequency of prostate cancer among patients with prostatic enlargement. In the Bradshaw Lecture to the Royal College of Surgeons in 1896, he remarked, 'I have long thought that slowly progressive carcinoma of the prostate is far more common than is generally believed to be the case', thus helping pave the way toward the great advances in diagnosis and treatment of the 20th Century. Harrison received a number of prestigious awards and appointments throughout his career, including Hunterian Professor of Pathology and Surgery at the Royal College of Surgeons and President of the Medical Society of London.

Conclusions: Harrison was among the most influential surgeons of his time, and his great contributions to urology remain significant into the modern era.

U20

Chronology of LASER in urology

SJ Nandhra, VS Hanchanale, KH Chan, AR Rao
York Teaching Hospital NHS Trust, United Kingdom

Introduction: The discovery of laser is a technical breakthrough, but in its early years it was something of a technology without a purpose. We hereby present the historical aspects of laser from its discovery to its present utility.

Materials and Methods: We reviewed the medline and relevant for historical articles about laser and its clinical utility with special consideration to urology.

Result: The principle of LASER was first to postulated by Albert Einstein in 1917. The acronym LASER (Light Amplification by the Stimulated Emission of Radiation) was coined by Gould (1957).

Nobel laureates (1964) Charles Townes, Joseph Weber and Prokhorov discovered LASER. Theodore Maiman (1960) is credited with invention of the first working ruby laser. In 1964, Bell Labs researchers invented the Nd:YAG and CO2 laser. The credit of first commercial laser eye surgery goes to John Myers (1985).

Parsons became the first urologist to experiment with ruby laser light in canine

bladders (1966) and Mulvaney attempted to fragment urinary calculi. In late 1980's pulsed dye laser was used for lithotripsy. Over last decade, various laser (Nd:YAG, KTP, thulium) have been used for prostatectomy. Laser has also been used in management of urethral or ureteral strictures, renal tumour enucleation and other urological conditions. The evolution of laser therapy for prostate from coagulation to vaporization and enucleation has given new direction.
Conclusion: Recent advances in laser and fiberoptic technology have positively influenced the urology, perhaps more so than any other medical subspecialty.

U21
History of male circumcision in Africa: from ritual to lifesaver?
JR Bhatt, K Hart, RS Nicholas, T Rees, JP Kelleher, NA Haldar
Wycombe Hospital, United Kingdom

Introduction: Male circumcision is arguably mankind's oldest surgical procedure dating back several millennia defining cultural practices and rites of passage for numerous people. Others have spurned it as genital mutilation. Yet strong evidence has emerged to show that it may help in preventing HIV transmission. This paper looks at its history in the continent where it was first recorded historically, where it is a sensitive tribal demarcation, and where the HIV pandemic has ravaged more than anywhere else.
Materials and Methods: Search on keywords: Male circumcision, history, Africa, HIV.
Results: The oldest documentary evidence of circumcision comes from ancient Egypt, dating back to 2400 BC. This practice then spread to surrounding areas, although not all Nilotic tribes accepted it, especially around Lake Victoria.
Circumcision was carried out widely as a rite of passage from boyhood to manhood among Bantus. Standing in numbing cold rivers was the only anaesthetic! Herbal pastes were applied to help healing. Recently, significant mortalities have been reported from traditional circumcision schools in South Africa, mostly from bleeding. Interestingly HIV was shown to be less in circumcised men, leading to 3 large-scale RCTs in East and Southern Africa in 2004. These have shown a 60% risk-reduction of HIV transmission.
Conclusion: WHO and UNAIDS have now embarked on a massive campaign to safely circumcise young African men from tribal groups who have traditionally and historically shunned this ritual. Circumcision has made history as perhaps the only surgical procedure with significant preventive benefit against a killer disease.

U22
Prison break: urological diseases aboard convict ships in the 19th century
BAPJ Jayasekera, PVSK Kumar, AB Birnie, AJ Jones
Royal Berkshire Hospital, Reading, United Kingdom

Introduction: With the transportation act in 1717, convicts could face penal servitude abroad. Healthcare aboard convict ships was the responsibility of the ship surgeon. We examined the case mix of urological conditions aboard convict ships destined for the antipodean colonies.
Materials and Methods: Ship surgeons maintained medical journals during their voyages, detailing nature and duration of disease and outcome. Some surviving journals are held at the National archives in Kew gardens, United Kingdom. Electronic catalogue records were searched for terms relating to urological diseases, between 1830 and 1850. After identifying cases, original documents were examined to ascertain nature of disease and management.
Results: From 1830 to 1850, 208 ships transported convicts to the antipodean colonies. Urinary retention or difficulty urinating was documented in 51 passengers. Causes included venereal strictures, urinary calculi and constipation. Reference to prostatic disease was made in 2 cases. Dysuria was noted in 58 cases. Venereal disease accounted for the majority. Diagnosis of urinary calculus was made in 7 cases. Penile pathology was predominantly venereal. Phimoses & paraphimoses were described in 22 and 5 cases respectively. 108 cases of testicular & scrotal disease were noted including orchitis, traumatic injury, hydroceles, scrotal cancer and ulcers.
Conclusion: Urological diseases were encountered not infrequently by ship's surgeons of the mid 19th century. Conservative management with changes in diet; use of ointments and medicaments was the mainstay of treatment. Intervention in the form of urethral dilatation with a bougie; urethral, suprapubic and transrectal catheterisation and open surgery, was uncommon.

U23
Plugging the hole? The history of the use of haemostatic agents and sealants in urology
K Makanjuola, A Rao, H Nemade, O Bakhsh, G Kooiman
King's College Hospital NHS trust, Department of Urology, London, United Kingdom

Purpose: Throughout the history of surgery, man has been searching for ways to achieve satisfactory intra and post operative haemostasis. Well established urological procedures including partial nephrectomy and radical prostatectomy widely use haemostatic agents such as fibrin gel. The purpose of this abstract is to review the developmental history of these agents to present day and see how urology has adopted these into common practice.
Discussion: Historically the pursuit of haemostasis can be dated back to ancient Egyptian times where topical application of meat was used for this purpose. Topical haemostatic agents in the modern surgical era can be traced to 1909, when Bergel first discussed the use of topical fibrin for haemostasis. In 1938 purified thrombin became available through protein separation which accelerated research and development of fibrin sealants. Young and Medawar reported the use of fibrin sealant to repair peripheral nerves in 1940. Gelatin-based haemostatic agents such as Gelfoam were first introduced in the 1940's and are now abundant in modern operating rooms. In 1972, cryoprecipitate became widely available. Professor Helene Matras combined this with purified bovine thrombin to produce the first modern fibrin sealant. In 2010 Thomas J. Mueller presented an interesting series of eight patients in which the fibrin sealant Tisseel was used to create ureteric obstruction during laparoscopic pluck nephroureterectomy.
Conclusions: Throughout the ages, effective topical haemostatic agents have been invaluable in surgical practice,

with urological surgery being at the forefront of early adopters of haemostatic agents.

U24

A historical evaluation of the changes in prostate cancer diagnosis over eight decades

CM Moore, HU Ahmed, M Emberton
University College London Hospitals Trust, London, United Kingdom

Introduction: Prostate cancer is unique in that diagnosis often depends on histological phenotype defined using systematic biopsy, prompted by an abnormal serum marker. In other cancers histological phenotype is determined by biopsies directed to an abnormality that is seen, felt or imaged. We review different strategies for prostate cancer diagnosis over 80 years.
Results: The first diagnosis of prostate cancer was determined by clinical phenotype using digital rectal examination (DRE). In 1930, cytological phenotype was assessed using transperineal sampling, guided by rectal palpation. In 1937, transrectally directed core needle biopsy, guided by rectal palpation, allowed evaluation of the histological phenotype.

In 1989, Stamey reported the use of TRUS guided prostate biopsies in men with palpably abnormal prostates. 90% (227/251) had hypoechoic lesions corresponding to the palpable abnormality, with an overall 60% cancer detection rate. A second paper found that 94% of cancers were detected with systematic biopsies alone, compared to 61% with lesion directed biopsies alone. This was the first time that systematic organ biopsy was favoured over biopsy of an abnormal clinical or radiological phenotype.

Since then, there has been an increase in the intensity of systematic biopsies, along with the biopsy of a population at increasingly lower risk of clinically significant prostate cancer.
Conclusions: Prostate cancer diagnosis has moved from histological confirmation of the palpably abnormal prostate to systematic biopsy which finds subclinical disease. We postulate that further change, perhaps using a radiological or biomarker based phenotype may be able to reduce current levels of overdiagnosis.