“THE KEYHOLE SURGEON: JOHN WICKHAM, PCNL AND ENDOUROLOGY”

INVITED LECTURE BY A/PROF DAVID WEBB

71st USANZ ANNUAL SCIENTIFIC MEETING

MELBOURNE CONVENTION CENTRE,

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LET ME TAKE YOU BACK IN TIME

TO THE INSTITUTE OF UROLOGY IN LONDON

IT IS NOVEMBER 1979

THE SPECIALTY OF ENDourology IS NON EXISTANT
• MIKE KELLETT IS THE URORADIOLOGIST

• HE IS AN EXPERT IN THE RELATIVELY NEW RADIOLOGICAL TECHNIQUE

OF PLACING FINE NEPHROSTOMIES INTO OBSTRUCTED KIDNEYS
• JOHN WICKHAM IS THE ACADEMIC DIRECTOR OF THE INSTITUTE

• HE EXPLAINS AN OPEN NEPHROLITHOTOMY TO A PATIENT WITH A LOWER POLE RENAL CALCULUS.

• SIR HENRY MORRIS’ OPERATION IS ABOUT TO CELEBRATE IT’S CENTENARY

• IT IS MORBID
• JOHN OFFERS THE PATIENT AN UNTRIED NOVEL ALTERNATIVE

• MIKE KELLETT CREATES A ONE CENTIMETRE TRACK IN RADIOLOGY

• THREE DAYS LATER, UNDER GENERAL ANAESTHETIC, JOHN STEERS A CYSTOSCOPE ALONG THE RAW GRANULATING NEPHrostomy TRACK

• THE STONE IS EXTRACTED IN A DORMIA BASKET

• THE NURSING STAFF ERUPT IN SPONTANEOUS APPLAUSE!

• “WICKHAM LATER REMINISCED - THIS OPERATION WAS THE FIRST TO MAKE A PRIMARY DEFINITIVE DILATED AND ELECTIVE TRACK INTO A KIDNEY AND USE AN ENdOSCOPE INTRARENALLY TO REMOVE A STONE FROM A PREVIOUSLY UNOPENED COLLECTING SYSTEM. THEREAFTER, OUR PROFESSIONAL LIVES WERE CHANGED COMPLETELY”.
• WHEN JOHN TOLD THE BBC JOURNALIST, FIONA HOHNS, THAT THIS NEW FORM OF SURGERY WAS “MINIMALLY INVASIVE SURGERY”

• SHE PRAGMATICALLY REPLIED

• “YOU CAN’T CALL IT THAT, PEOPLE WON’T KNOW WHAT YOU’RE TALKING ABOUT!”

• “I THINK IT SHOULD BE CALLED “KEYHOLE SURGERY”

• AND THE REST IS HISTORY!

• IN 1980 WICKHAM PRESENTED HIS FIRST FIVE CASES OF PCNL TO BAUS

• HE RECEIVED LITTLE SUPPORT

• HIS OPERATION WAS LABELLED “A STUNT”, AND “NOT REAL SURGERY”

• THE LEGACY OF A PROPHET IN HIS OWN LAND!

• PETER ALKEN FROM MAINZ AND JOHN PUBLISHED THEIR FIRST PCNL SERIES’ IN 1981

• BY 1982, THE WORLD WAS EMBRACING PCNL

• MARBERGER, SEGURA, SMITH, CLAYMAN AND COUNTLESS OTHERS REPORTED THEIR OWN SERIES
• WICKHAM’S MISSION WAS TO “SPREAD THE WORD”

• HE WAS FORTUNATE TO HAVE THE ASSISTANCE OF HIS ENTHUSIASTIC SENIOR LECTURER – RON MILLER

• THEY HASTILY AUTHORED PERCUTANEOUS RENAL SURGERY

• AND CONVENED THE WORLD’S FIRST INTERNATIONAL PCNL CONFERENCE IN LONDON IN APRIL 1983
• THE CONFERENCE WAS OVERSUBSCRIBED

• THE BOOK BECAME A COLLECTORS ITEM

• FIRSTLY FOR UROLOGISTS, BEING THE FIRST PCNL TEXT

• SECONDLY FOR BIBLIOPHILES – AS IT HAS A “TYPO”, “PERCUTANOUS”, ON THE SPINE

• A PUBLISHER’S PENNY BLACK!

• IT IS COMMONLY ASSUMED THAT LAPAROSCOPIC COLECYSTECTOMY BEGAN THE KEYHOLE SURGERY PHENOMENON

• IN FACT PCNL PRECEDED LAP CHOLE BY FIVE YEARS

• JOHN TRAVELLED EXTENSIVELY
• HIS VISIT TO AUSTRALIA WAS THE CATALYST FOR THIS COUNTRY’S FIRST PCNL AT THE ROYAL MELBOURNE HOSPITAL IN 1983

• I HAD THE PRIVILEGE OF

• ASSISTING AT THE ROYAL MELBOURNE PCNL

• ATTENDING THE LONDON CONFERENCE

• AND WORKING AS JOHN’S ASSISTANT AT THE DEVONSHIRE HOSPITAL
• I WAS SPELLBOUND BY HIS SUBLIME OPEN NEPHROLITHOTOMY
• HIS REPUTATION FOR MIS HAS OVERSHADOWED HIS OPEN SURGICAL SKILL.
• JOHN WAS A RELAXED, ORGANISED, SMOOTH, PRECISE, AND FASTIDIOUSLY ERGONOMIC OPEN SURGEON
• HE OPERATED SEATED WITH THE KIDNEY SUSPENDED ON A GANTRY ATTACHED TO A SELF RETAINING RETRACTOR
• HIS MOVEMENTS WERE SEAMLESS, SIMPLE AND METHODICAL
• HE ASPIRED TO BECOME A SURGEON BECAUSE :
• “IT IS THE MOST TRULY SATISFYING COMBINATION OF A PRACTICAL AND INTELLECTUAL ACTIVITY”
• TRUE IN THEORY BUT RARELY IN PRACTICE!

• HE WAS AN EXCEPTION

• BORROWED INSTRUMENTS WERE REMODELLED AS BESPOKE PCNL TOOLS

• CYSTOSCOPES – STRAIGHT CHANNELED NEPROSCOPES

• BASKETS – RIGID GRASPERS

• AND SO ON
• THE WIDTH OF THE NEPHROSTOMY TRACK LIMITED THE SIZE OF STONES THAT COULD BE EXTRACTED BY BASKET TO LESS THAN 1 CM

• JOHN CALLED THESE “GRABBERS”

  LARGER CALCULI COULD BE REDUCED BY ULTRASONIC AND ELECTROHYDRAULIC PROBES TO REMOVABLE FRAGMENTS

• THESE WERE “GRINDERS”
• WITH THE INTRODUCTION OF THE RIGID URETEROSCOPE IN 1982, THE UROLOGIST COULD NOW VIEW THE ENTIRE UPPER URINARY TRACT
• THE SYNTHESIS OF PCRS AND URETEROSCOPY FORMED A NEW AND DISTINCT UROLOGICAL ENTITY
• IT WAS CALLED – “ENDOUROLOGY”
• NICELY CHRONICLED BY JOE SEGURA
• THE ENDOUROLOGICAL SOCIETY WAS BORN SOON AFTER

• THEIR LOGO REPRESENTS THESE FOUNDATION PROCEDURES - A NEPHROSCOPE

• AND A GUIDEWIRE TRAVERSING THE URETER
THE EUS WEBSITE CREDITS WICKHAM’S 1983 PCNL CONFERENCE AS “THE FIRST WORLD CONGRESS ON ENDOUROLOGY”, AND JOHN IT’S PRESIDENT

IN 1978 WICKHAM FORMED THE INTRA-RENAL SOCIETY

HE INVITED “LIKE MINDED UROLOGISTS TO SHARE THEIR COMMON INTERESTS IN OPEN SURGERY”

THE MEETINGS GAVE MEMBERS AN “INTELLECTUAL BOOST”
• PROFESSOR CHAUSSY FROM MUNICH PRESENTED HIS DEPARTMENT’S RESEARCH INTO THE FRAGMENTATION OF RENAL CALCULI IN DOGS BY EXTERNALLY APPLIED SHOCKWAVES TO THE IRS

• JOHN RECALLED “WE THOUGHT CHAUSSY AND HIS TEAM WERE SLIGHTLY OFF THEIR HEADS”!
• WHEN THE FIRST SUCCESSFUL ESWL WAS REPORTED IN FEBRUARY 1980

• THESE THOUGHTS WERE IMMEDIATELY DISPELLED!

• ESWL WAS TO REVOLUTIONISE MODERN STONE TREATMENT

• IT IS IRONICAL TO COMPARE THE EVOLUTION OF PCNL AND ESWL

• THE HUMAN APPLICATION OF SHOCKWAVES WAS PRECEDED BY TEN YEARS OF CLINICAL RESEARCH

• PCNL - NONE!

• THE COMBINATION OR PCNL, URETEROSCOPY AND ESWL GENERATED A SURGICAL SEA CHANGE!

• THEY BOOTED THE CENTRY OLD OPEN NEPHROLITHOTOMY INTO OBLIVION IN LESS THAN THREE YEARS
• THE CHALLENGE BECAME, WHAT WERE THE INDICATIONS FOR EACH PROCEDURE?

• LITHOTRIPTORS WERE EXPENSIVE – MILLIONS OF POUNDS

• THEY REQUIRED:
  - SPACE
  - A WATER BATH
  - DESAL PLANT
  - GENERATORS
  - GANTRY
  - AND BIPLANAR RADIOLOGY
  - UP TAKE OUTSIDE OF WEST GERMANY WAS SLOW
• THE USA FDA SET UP TRIAL SITES FOR A CO-OPERATIVE STUDY

• THIS COMMITTEE DID NOT REPORT UNTIL 1986

• THE NHS WOULD NOT FUND A LITHOTRIPTOR ON ANY BASIS

• IN 1983 THE KUWAIT HEALTH OFFICE PURCHASED A DORNIER HM3 LITHOTRIPTOR

• AND ACQUIRED A FORMER MEDICAL CLINIC IN WELBECK STREET, LONDON

• THIS BECAME THE LONDON STONE CLINIC
• JOHN WAS THE EVER-POPULAR MEDICAL DIRECTOR

• MIKE THE URORADIOLOGIST

• AND MYSELF, THE GENERAL FACTOTUM!

• FOR THE FIRST TIME IN EUROPE (OUTSIDE WEST GERMANY), PCNL, ESWL AND URETEROSCOPY WERE AVAILABLE AT A STAND ALONE INTEGRATED STONE CENTRE

• THE LSC TREATED PRIVATE AND NHS PATIENTS

• UROLOGY REGISTRARS ROTATED THROUGH THE CLINIC
• **THE FIRST ESWL IN THE UK WAS PERFORMED IN NOVEMBER 1984**

• **BILL FAIR MADE THE COMMENT THAT “LITHOTRIPSY IS NOT A JOB FOR A FULLY-GROWN UROLOGIST”**
• JOHN WAS OF THE SAME OPINION

• AFTER THE PRESS PHOTOGRAPHED HIM FIRING THE FIRST 50 SHOCKWAVES –

• HE RETIRED FROM ESWL

• THE TRIGGERING DEVICE BECAME MINE
• OVER A THOUSAND PATIENTS WERE TREATED IN TWO YEARS

• PUBLICATIONS WERE COPIOUS
We experienced the newly described clinical entity

The Steinstrasse

An impassable conglomerate of stone fragments obstructing the ureter

Ureteroscopic clearance was difficult or impossible

John bemoaned after one particularly tedious and fruitless URS session that he “felt like a demented woodpecker”!!

Fortuitously the fragments passed spontaneously after a decompression nephrostomy
• GUIDELINES WERE NON-EXISTENT

• WE SOON DISCOVERED THAT

• ESWL WAS INEFFECTUAL FOR LARGE HARD STONES

• CYSTINE STONES DID NOT BREAK

• FRAGMENTED INFECTION STONES WERE A DISASTER

• THESE COMPLICATIONS COULD BE (AND WERE) SALVAGED BY PCNL

• PCNL BECAME THE PRIMARY APPROACH FOR COMPLEX STONES
• STEVE PAYNE AND I UPDATED PRS TO INCLUDE ESWL

• IN 1993 JOHN AND MIKE INCISED PUJ OBSTRUCTIONS PERCUTANEOUSLY

• THE OPERATION WAS BASED ON THE PRINCIPAL OF INTUBATED URETEROMY

• THEY NAMED THEIR OPERATION “PYELOLYSIS”

• NOW KNOWN AS ENDOPYELOTOMY

• ENDOPYELOTOMY HAD A 70% SUCCESS RATE

• ENDOPYELOTOMY ONLY BECAME REDUNDANT WHEN LAPAROSCOPIC PYELOPLASTY REPLICATED OPEN PYELOPLASTY
• WHAT SORT OF A CHAP WAS JOHN?

• OUTSIDE SURGERY HE HAD TWO INTERESTS

• FIRSTLY, ANN AND THEIR THREE DAUGHTERS

• SECONDLY (AND JUST)

• DAIMLERS, PORSCHE AND LOTUS’

• HE TINKERED, RESTORED AND DROVE THEM FAST

• HE OFTEN MUSED THAT HE WOULD LIKE TO “COME BACK AS A USED CAR SALESMAN”
• HE WAS OPEN TO NOVEL IDEAS

• HE ENCOURAGED GRAHAM WATSON TO DEVELOP PULSED DYE LASER URETEROLITHOTRIPSY
• THE LSC WAS A GOOD “ASSESSMENT POST”

• JOHN ASKED ME TO “HAVE A LOOK AT THIS CHAP WHO JUST LOBBED INTO MY OFFICE YESTERDAY AND TOLD HE WANTED TO DO UROLOGY – MAY HAVE POTENTIAL, BUT POSSIBLY A BIT OF AN ODDBALL”

• THAT ODDBALL WAS MALCOLM COPTCOAT

• SIX YEARS LATER JOHN WAS THE “ODDBALLS” ASSISTANT FOR THE UK’S FIRST AND THE WORLD’S SECOND LAPAROSCOPIC NEPHRECTOMY!
• AND NINE YEARS LATER

• THE ODDBALL AND I RECONNECTED IN HANOI

• TO JOINTLY CONVENE THE FIRST PCNL WORKSHOP IN VIETNAM AT THE VIET DUC HOSPITAL
• MULTIPLE TECHNOLOGICAL ADVANCES IMPROVED STONE FRAGMENTATION AND ACCESS INCLUDING

• HOLMIUM LASER LITHOTRIPSY

• BALLISTIC LITHOCLAST PROBES

• FLEXIBLE URETEROSCOPY AND NEPHROSCOPY
• PCNL INSTRUMENTS WERE MINIATURISED

• THE FIRST MINITURISED PCNL WAS PERFORMED USING A STING CYSTOSCOPE THROUGH A 16 FRENCH AMPLATZ SHEATH AT MELBOURNE’S RCH IN 1990

• THE TERM “MINI” PCNL WAS NOT COINED UNTIL 1998 WHEN JACKMAN ET AL USED A “PEEL AWAY” URETEROSCOPY SHEATH AND A URETEROSCOPE PERCUTANEously
• MINI PCNL SETS HAVE BECOME STANDARD

• THE “MINI” CONTINUES TO MINIATURISE!

• FROM 30 FRENCH, TO 14, 8 AND RECENTLY 4.8 FRENCH, THE “MICRO PERC”
SLIDE 32 – PCNL INDICATIONS

- PCNL RATES ARE STABLE AT 5% IN MOST COUNTRIES

- ESWL HAS FALLEN DUE TO THE RISE IN POPULARITY OF FLEXIBLE URETEROSCOPY

- HOWEVER, PCNL REMAINS THE PROCEDURE OF CHOICE FOR COMPLEX, LARGE, HARD AND INFECTION RELATED STONES
• AND THERE IS STILL A MARKET FOR NEW PCNL TEXTS!

• SO THAT’S PCNL

• WHAT ELSE DID JOHN DO?
• HE HAD AN EVANGELICAL DESIRE TO SPREAD THE CREED OF MINIMALLY INVASIVE SURGERY ACROSS ALL MEDICAL AND SURGICAL SPECIALTIES

• TO PROMOTE SUCH CROSS-FERTILIZATION HE ESTABLISHED THE SOCIETY OF MINIMALLY INVASIVE THERAPY IN 1978
• JOHN’S MOST SPECTACULAR INTER SPECIALTY ALLIANCE WAS WITH PROFESSOR BRIAN DAVIES FROM THE DEPARTMENT OF ROBOTICS AT IMPERIAL COLLEGE, LONDON

• THEY CREATED THE “PROBOT”

• THE PROBOT PERFORMED A COMPLETELY AUTONOMOUS VAPORISATION PROSTATECTOMY UNDER ULTRASOUND IMAGING, EXCLUSIVELY CONTROLLED BY A MACHINE

• FOR THE SECOND TIME JOHN WAS TO TREATED TO SPONTANEOUS APPLAUSE BY THE STAFF!

• THIS WAS, AND REMAINS, THE WORLD’S FIRST AND ONLY GENUINE UROLOGICAL ROBOTIC OPERATION
• PCNL WAS THE CATALYST FOR THE BIRTH OF ENDUROLOGY

• PCNL REMAINS THE ESSENTIAL SKILL FOR THE MANAGEMENT OF COMPLEX STONES

• ENDUROLOGY HAS BECOME UROLOGY -

• SAVE FOR A FEW REMAINING OPEN OPERATIONS
CONTEMPORARY ENDUROLOGY OWES IT’S DEVELOPMENT TO MANY

NOTWITHSTANDING, THE NAME OF ONE MAN WILL ALWAYS BE AT THE FOREFRONT

THE TINKERER, THINKER AND PIONEERING UROLOGIST

MR JOHN WICKHAM

“THE KEYHOLE SURGEON”