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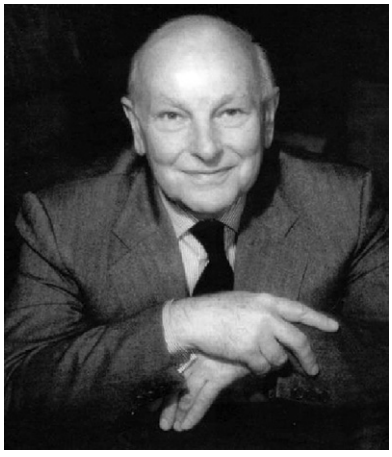
PERSONAL REPORT

Standing on the shoulders of giants: 3. John Wickham based on an interview 7/11/2009



John Wickham is British Urology's great innovator, whose desire to make surgery less invasive was a constant throughout his working life and crossed specialty boundaries.

He lived a contented childhood in West Sussex where early tinkering with technology involved building an Austin 7 out of two wrecks. He was accepted to Bart's in 1946, but a shortage of places due to an influx of returning servicemen meant that he first spent 2½ years doing national service.

On qualifying he completed a BSc in Physiology with a particular interest in the nervous system. His initial thought was to pursue a career in Neurology but thought this was a bit ''*sterile*'' and decided to study for his fellowship in order to turn to Neurosurgery.

Eighteen months as an anatomy demonstrator and one year as a junior registrar led to the FRCS.

On reporting to Mr Ian Todd, his chief at Bart's:

''''*I've got my fellowship Sir!*''

He replied, ''You don't bloody well deserve it: you don't know any surgery!''

This was quite right!

I then got a job at Hammersmith Hospital which was, at that time, a most exciting place. As well as General Surgery and Urology I was lucky enough to get the peripheral vascular job, which I did for eighteen months. I have always reckoned that this was the best bit of my surgical training: once you've done a few aortic resections you just do not worry about bleeding and you can literally cope with anything major.''

Hammersmith was then the postgraduate medical centre for the country, and a place of great innovation and innovators such as Professors Aird, McMichael, and Sheila Sherlock.

''Ralph Shackman et al. were starting intermittent dialysis and Geoff Chisholm and I were registrars together, concerned with manning the Necker dialysis unit. Renal transplant was just on the horizon making everything more exciting.''

His career intentions now began to move from Neurosurgery to Urology,

''I think one was wound up by the scientific nature of the thing at Hammersmith. I was then lucky enough to be invited back to Bart's as a senior registrar with Alec Badenoch and Ian Todd and began to see that Urology had much more interesting prospects at that time.''

His enthusiasm was only increased by a year spent visiting the University of Lexington in Kentucky with a Fullbright scholarship. It was here that he developed intra-operative renal cooling, resulting in a Mastership thesis.

At the end of this period he was offered a job as Professor of Urology in Lexington.

''It was a terrible dilemma: but my wife and I finally decided we'd rather have English children than American children.''

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On returning to England he completed training and then spent another year at St. Paul's Hospital before being appointed at Bart's as a consultant in 1968, attempting to fill Alec Badenoch's very large shoes.

''There was a huge sort of feeling amongst the General Surgical staff that they didn't want specialist surgery. You know, ''We can do Urology, we can do a prostate, we can take out a kidney,'' that sort of thing...

Clive Charlton joined me and with considerable tribulations we managed to establish a definitive department of Urology.

Within Urology what irritated me was the stone surgery. This was almost always either a partial nephrectomy or nephrectomy for difficult stones. This frequently entailed lopping off the lower calyceal part of the kidney to prevent stone recurrence. Patients often used to wind up in this two stage nephrectomy as they frequently bled after the first operation: ''Oh dear, we'll have to go back and take it out.'' This happened to a friend of mine.

I was appalled by the way surgery for stones was done. The standard operation for a staghorn calculus was to open up the patient, mobilise the kidney and get the assistant to compress the pedicle with his fingers whilst the kidney was split in half. The stones were then picked out and the kidney put back together and stitched up like a weekend sirloin! Having done Neurosurgery I thought this was ridiculous: if you can do Neurosurgery and worry if you lose a few corpuscles why the hell can't you do something similar in renal surgery?''

Having been appointed at St. Paul's Hospital he was able to further develop his open stone surgery technique of cooling the kidney with pedicular clamping as he had developed in Lexington. He performed over 300 such cases in the next 12 years. In 1982 he contacted surgeons whom he knew with similar practices worldwide and arranged the first meeting of what would become the European Intrarenal Society.

There were two (friendly) camps: those favouring cooling and parenchymal incisions, and the followers of Gil-Vernet (led in the UK by John Blandy) who performed stone extraction through the renal pelvis:

''Which was fine if the system was dilated. With a narrow system and a scarred kidney complete stone removal was almost impossible and it was important to look into the calyx to do a complete toilet to prevent recurrence.

At the time when intrarenal stone surgery was progressing we began what is known as nephron sparing surgery, removing renal tumours locally in bilateral and solitary kidneys without loss of function.

Additionally in 1976, I started renal transplant surgery at St. Paul's Hospital and Bart's: my vascular experience being useful for this, and also shunt surgery for dialysis.''

Still irritated by the gross nature of open renal surgery for small stones, John linked up with the radiologist Mike Kellett at the Institute of Urology to develop PCNL. Kellett had been performing percutaneous nephrostomies and between them they decided to dilate up the tract to access small stones endoscopically. Soon word of their success led to a vast increase in referrals, and the first meeting of what became the International Society of Endourology was arranged by the Institute and held at Centrepoint in London in the early 80's.

''We could demonstrate that someone was in hospital for about a week with an open renal operation with six weeks convalescence, whereas we were having people in for two days and getting back to work in a week. I think the ace one was a No. 38 bus driver, who we had treated and who stopped his bus outside the Shaftesbury Hospital and popped in to say thank you a week after we removed his stone! I thought, ''This really clinches it!'' and our first five cases were presented at BAUS in 1980 with a fair bit of support and a fair bit of criticism.''

The criticism?

''This is not surgery!''

And,

''Nothing like a good old incision, get your head inside and see what's going on!''

However there were many like minded, innovative urologists who similarly developed minimally invasive techniques: Peter Alken in Mainz; Joe Segura at the Mayo Clinic; Arthur Smith from New York; Ralph Clayman from St. Louis, and others who helped develop the Endourology society.

''The next step was the introduction of the work of Piz Eisenburger from Munich who developed the first extracorporeal shock wave lithotripter. I knew of this work in 1978 through the Intrarenal Society and it was obviously of unusual importance to stone surgery and, as representing ''St. Peter's Hospital

for the Treatment of Stone,'' I attempted to persuade the Department of Health to invest in this machine. The idea was not accepted in 1979 or 1980 and I therefore looked for help, and got it, in the private sector and the first Dornier lithotripter in England was installed in Welbeck Street. I was asked to run this machine which I agreed to do on condition that registrars from St. Peter's Hospital were trained on it and a proportion of NHS patients should be treated on it. In the first year we treated 1000 patients and this stimulated the Department of Health to install one in St. Thomas' Hospital a year later. With successive machines this became a ''walk in- walk out'' procedure and it became obvious that this was going to be like going to the dentist''

This revolution was seen across other surgical specialties such arthroscopy in orthopaedics, laparoscopy in gynaecology and biliary surgery, and also angiocatheter coronary artery treatment. It was clear that there was common ground amongst these surgeons.

''So I wrote round to everybody who'd published anything on endoscopic surgery or interventional radiology, no matter what the specialty, and got a big response from all around the world.

I arranged the first meeting of the Minimally Invasive Society at the Royal Institute in London in December 1989 amongst a collective of surgeons, interventional radiologists and, crucially, manufacturers. The society took off around the world, with meetings in places such as Vienna, Boston, Dublin, Milan, Berlin, and Kyoto. All meetings were attended by about 400 people. It was very exciting and that's when I sort of slightly diverted from pure Urology as I was elected first president of the society. It was wonderful to meet people in other specialties and you began to realise that Urology was a pretty narrow little area in the general spectrum of things.''

John teamed up with general surgeons such as Chris Russell and physician Peter Cotton at the Middlesex and also operated on gall bladder stones:

''This was when one of my colleagues said I should be struck off because I wasn't wholly and totally involved in Urological practice.''

Of this criticism:

''I think you got the feeling that people regarded me as an eccentric but the purpose was central and you got used to it.''

Subsequently John and Malcolm Coptcoat performed the first laparoscopic nephrectomy at Kings, and the two of them, together with the radiologist Andy Adam at Guy's, worked on the Journal of Minimally Invasive Treatment which was associated with the society.

John was director of the academic unit at the Institute for 10 years and stresses that his ability to lead and innovate was only possible because of the team he had with him,

''We had all these clever young fellows like Ron Miller, John Fitzpatrick, Malcolm Coptcoat, Chris Woodhouse and many others. We all worked together and bounced things off one another and they got enthusiastic about various things. It was like having a rugger scrum behind you to push you forward. I think it was the best ten years of my professional life.

We developed the concept of minimally invasive surgery and set up the first department devoted to it and I wrote several articles in the BMJ suggesting this name, which now seems to have been accepted worldwide.''

An example of how this system worked is the development of laser lithotripsy,

''Graham Watson was one of the lecturers on the unit and he was working with lasers, he said to me, ''The 504 nm laser will break ureteric stones.''

So we said, ''Let's give it a go!'' and it worked.

How we got away without controlled trials etc. . . if something worked and caused no damage we continued. This is what we did at the academic unit.''

The final and perhaps most ambitious project was the ''Probot''- a fully autonomous TURP machine, developed in conjunction with Professor Davies from Imperial College, to improve clinical accuracy, and tested in clinical trials in the Institute and Guy's Hospital. This was developed by Malcolm Coptcoat, Anthony Timoney and Senthil Nathan.

''We treated about 30 patients successfully and then came the reckoning- where do we go from here? It was the first robot to operate on a patient autonomously- and it worked. Most robots are surgeon assisted. We discussed this at Imperial College and they suggested that to make it a commercial success it needed re-engineering but this would cost about half a million pounds. The machine worked but it was an economic nonsense. Unfortunately it was a machine looking for a job and an SHO doing a TUR was cheaper.''

John's efforts did not go unnoticed and he was invited to visit the Intuitive company who were to develop the da Vinci robot and also to give the principal lecture to the Bioengineering Society of America.

He retired in 1992 and has observed with interest innovations in our field and still keeps in contact with the Society of Minimally Invasive Surgery, now the Society of Minimally Invasive Therapy,

''*I follow the journals and occasionally go to a meeting but I really can't do long haul flights anymore.*''

Along with the introduction of new technology, John also believes that centralisation of surgery will improve outcomes,

''*I think that you should have almost walk-in centres for straightforward procedures such as hernia repair, and regional specialist centres for the difficult problems.*''

Finally he reflected on the unique set of circumstances that allowed British Urology to be at the forefront of innovation,

''*I think we were just lucky, I think we just got it in before the regulation and quotas and God knows what came in. We were much more autonomous and didn't have administrators breathing down our necks: if you said you wanted to take a whole operating list doing a ''perc'', no-one said ''what about waiting lists?*''

John clearly had a fulfilled and successful professional life and key to this was his ability to form relationships with colleagues both medical and those from medical engineering companies,

''*I think the thing I would emphasise- it's great fun being in a team with bright young men who were firing off, and meeting with international teams of various specialties of one's own age seeing things from different angles. It was a wonderful feeling that one was able to develop the terminology ''minimally invasive surgery'' and to find there were other people thinking the same as you were and that you weren't just a weird eccentric.*''

It is perhaps the misfortune of any innovator to be thought of, by some, as a ''*weird eccentric*''. However, the armamentarium that we use to surgically treat urological disorders today, and the subsequent reduced morbidity suffered by our patients as a direct result of his work, are testimony to successful results of John Wickham's efforts.

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