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Patron: Martin Bell O.B.E., President: David Haines

a Founder Member of the Federation of Prostate Patient Support Groups
known as 'TACKLE'

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Photodynamic Therapy (PDT) for Prostate Cancer.

At our meeting on 4th September in the Benjamin Gooch Lecture Theatre, those in attendance were privileged to hear a talk by Stephen G. Bown MB, BChir, MD (Cantab), AM (Harvard), DSc (Hon. Lucknow), FRCP, Emeritus Professor of Laser Medicine & Surgery, University College London, which was entitled as above. I did try to précis its content while he spoke but soon realised I was out of my depth. Professor Bown was kind enough to accede to my request for a short synopsis, which I now include in full.



Prof. Bown, with Dr. Ian Gibson who led a 'questions & answers' session, following Prof. Bown's talk.

"Prostate cancer is a common disease, but there is considerable variation in its aggressiveness between patients. In some cases, no active treatment is required at the time of diagnosis and "active surveillance" (regular checks to see that the disease is not progressing) is a perfectly acceptable course of management. However, many patients are uncomfortable knowing that they have an untreated cancer on board.

There are two main ways of treating prostate cancer – radical surgery and radical radiotherapy (external and brachytherapy). Both have been in routine use for many years and control

the disease effectively, but both are associated with a significant risk of incontinence and/or impotence. These risks have fallen as techniques have improved, but both surgery and radiotherapy involve ablating the whole gland and neither can be readily repeated for localised persistent or recurrent disease after treatment.

Recent developments have explored options for repeatable, focal treatment – mapping out the extent of disease within the gland and just treating the cancerous areas. Until recently, mapping cancer in the prostate could only be done by taking multiple biopsies, although this is now possible with MRI (magnetic resonance imaging), which is much simpler than taking biopsies and is non-invasive. Techniques for minimally invasive, focal treatment include HIFU (High Intensity Focused Ultrasound), cryotherapy (freezing the tissue) and PDT (Photodynamic Therapy), which has attracted much attention recently.

PDT involves the intravenous administration of a drug (a photosensitiser) that makes tissue sensitive to light. Light (usually from a laser) can be delivered to the prostate using thin optical fibres that are passed through needles inserted through the skin between the scrotum and the anus, under guidance from an ultrasound probe positioned in the rectum (which is immediately adjacent to the prostate).

The photosensitiser has no effect in the absence of light of a colour appropriate to the absorption characteristics of the photosensitiser (red or near infra-red). The area of tissue destruction around a single fibre in the prostate is about 1.5cm in diameter, so in most cases, more than one fibre is required.

There are several specific advantages of PDT. The most important are:

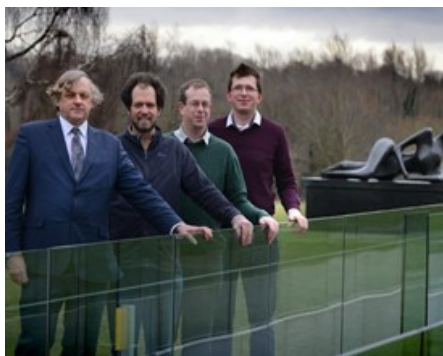
- It does not involve ionising radiation so can be repeated*
- It can be used in areas that have already received the maximum safe dose of radiotherapy.*
- The volume of tissue ablation is reasonably predictable, so the effect can be limited to cancerous areas of the prostate.*
- The risk of impotence or incontinence is much less than after surgery or radiotherapy.*
- It is minimally invasive (no open surgery, so potentially a day case treatment)*

The first image guided PDT for prostate cancer was undertaken in University College Hospital, London, (UCH) in 1996. The first group of patients were those with localised recurrent disease after radical radiotherapy. The treatment proved safe with reduction in PSA (prostate specific antigen) in almost all. Many further studies since then culminated in a major trial involving more than 400 patients in 7 European countries (mainly France), led from University College London (UCL). This trial compared PDT with active surveillance in patients with newly diagnosed early cancer. After 2 years, disease progression was twice as common in the surveillance group as in the PDT group. As a result of this trial, PDT for prostate cancer is approved for routine use in Mexico in appropriate patients and European approval is anticipated in the next few months. If it is approved, its availability is likely to spread relatively slowly as more urologists get familiar with the technique.

PDT is not the answer for all prostate cancers, but may allow more men to consider it as a tissue preserving approach that could delay or avoid the need for later radical therapy."

DESNT & Prostate Cancer

We were further privileged at our meeting on 4th December to receive a talk from Professor Colin Cooper, Chair of Cancer Genetics at the UEA, who is leading revolutionary research into the diagnosis of prostate cancer. It is no exaggeration to say that Professor Cooper kept us spell-bound for the best part of an hour. He was quick to acknowledge and give credit to all those in his team, especially Dan Brewer, who has worked in his laboratory for over 10 years and has just been appointed as a senior lecturer at UEA. They now jointly lead all their major projects.



From left to right: Colin Cooper, Vincent Moulton, (Head of Computing) Dan Brewer, Bogdan Luca (PhD student)

Professor Cooper explained:-

"Many of our projects are focused towards solving a major clinical problem for prostate cancer patients. In studies where prostates have been removed from men for reasons unrelated to cancer, over 50% over the age of 50 are diagnosed with prostate cancer when the tissue is examined down a microscope. However, only around 10% of these men would get prostate cancer that became life-threatening. Unlike other cancers, most prostate cancer is harmless.

This is a major clinical problem because when prostate cancer is first diagnosed, for many patients we have no idea what to do. Is the cancer harmless (a pussycat cancer) or is it aggressive (a tiger cancer)? If you treat a man with radiotherapy or surgery to remove the cancer there is a high chance

of impotence, so the treatment can be life-changing. Therefore there is a need to get it right; we need to be able to distinguish the tigers from the pussycats. Unfortunately this is currently not the case and many thousands of men are treated unnecessarily.

Our project has its origins in some maths called Latent Process Decomposition (LPD) that we started using about 10 years ago. Applying LPD to blood expression profiles from patients with advanced prostate cancer led to the recognition that there are two categories of advanced disease and to the development of an expression barcode to distinguish them.

The discovery had a lot of publicity and the comedian Jack Dee commented that he had heard there was now a bar-code test for prostate cancer, but thought that Sainsbury's supermarket self-check-out was traumatic enough already!

About two years ago we collected together all of the world's prostate cancer expression microarray datasets. This is where a technology called microarray is used to determine the expression of all of the 20,000 genes in the human genome in a single experiment for each cancer sample to which we applied LPD.

We reasoned that a classification of prostate cancer had not been possible previously because prostate cancer is a heterogeneous disease; that is individual samples of prostate taken for analysis have many different parts that each have different properties. This is well known for prostate cancer but no-one seems to have taken this fact into consideration when they were analysing data.

This is exactly what LPD can do; it takes into account that samples may have a heterogeneous composition. LPD tells you how many signatures there are in the dataset as a whole and tells you the composition of each sample.

When we analysed the data from four different expression microarray datasets we found that there was a common signature across all dataset examined. The cancers where this signature was most common were called DESNT cancers and DESNT cancers were characterised by the lower expression of 45 genes: DESNT comes from the latin DEScenduNT. When we linked cancers to the patient clinical data we found that patients with DESNT cancers had very poor clinical outcome.

Our work is now heavily focused on trying to produce a test for DESNT cancers that can be used in the clinic. There are a number of significant challenges but rapid progress is being made. I must say this is one of the most exciting discoveries that I have made in my career and the discovery that has the biggest potential for patient benefit."

Editor's Note:-

I believe the time has come to, not only thank Professors Bown and Cooper for giving up valuable time from their busy schedules to talk to our group and to wish them every success in their continued research, but also to acknowledge the efforts of our committee members responsible for attracting such prestigious speakers for us to listen to. It is evidence of just how much our own team is committed to keeping us well informed of the most current developments to beat prostate cancer. A big thank you to all concerned.



Prostate Diagnosis Shame

An audit has revealed that men with symptoms of prostate cancer wait four times longer for a diagnosis than women with suspected breast cancer. It takes 56 days on average from the time a man first reports symptoms to a GP for it to be confirmed that he has the disease; for breast cancer, it takes just 14 days, largely thanks to the national screening programme of regular mammograms.

Findings published in the British Journal of General Practice reveal the gulf in outcomes between different cancer types. Breast cancer receives the quickest diagnosis of two weeks on average, with 75% being diagnosed within 19 days.

For prostate cancer, which has one of the slowest diagnostic speeds, the average wait is 56 days, and a quarter of men have to wait 126 days, more than four months.

While screening for breast cancer is routine, tests for prostate cancer are haphazard and more accurate tools are yet to make it out of the laboratory. Professor Helen Stokes-Lampard, chairman of the Royal College of GPs, said :-

"GPs in the UK have some of the worst access to diagnostic tools in Europe. We need better access to both existing and emerging tests and imaging tools that could help us identify cancers, particularly those with symptoms that are more difficult to spot."

Men over the age of 50 are eligible for a PSA blood test, which gives Doctors a rough idea of who is at risk of prostate cancer, but it is infamously unreliable (*and many of us have heard that before!*) and men who get a positive result are usually sent for a biopsy for confirmation.

We are all aware now, or should be, that prostate cancer is the most common male cancer, with 47,000 British men diagnosed and 10,900 fatalities each year. Heather Blake, of Prostate Cancer UK, says :-

"It is clear that it often takes far too long to get a diagnosis for cancer in the UK. Part of the issue for prostate cancer is, until recently, men with raised PSA levels only had an MRI scan after undergoing a biopsy, a procedure which often needs time to heal before an accurate scan take place"

Editor's Note: - Too many patients have to wait far too long for a firm diagnosis, one way or the other. This really has to change, as waiting for a diagnosis is an exceptionally anxious time for patients. Despite this, I would urge any man over 50 who reads this article, **particularly if there is a history of prostate cancer anywhere in his family**, to take control of his own health and request a PSA test;

I did back in 2001 at the age of 58, and since my radical prostatectomy in March 2002, I have been trouble free.

Robots Give Surgeons a New Approach to Prostate Cancer

A British surgeon is offering a form of prostate surgery that, for the first time, virtually guarantees men will stay continent. Professor Christopher Eden, who practises privately at the Princess Grace Hospital in Marylebone, London and on the NHS at the Royal Surrey County Hospital, says that for most men, continence is the first concern following prostate cancer surgery, with potency a pretty close second.

One of the biggest barriers to men agreeing to have their potentially cancerous prostate surgically removed is what happens afterwards. Both incon-

tinence and erectile dysfunction are often an unavoidable consequence of prostate surgery, which involves cutting nerves and tissue around the bladder. But, explains Professor Eden, *"... if you can approach the prostate from below rather than above, most of that can be avoided. For a human surgeon, such a technique is impossible as you would have to have your head inside your patient's pelvis; it really is a small workplace..."*. He has joined two other surgeons, one in Italy, the other in South Korea, in pioneering a new approach using surgical robots.

Although robots have found their way into operating theatres around the world over the last decade, this new technique, called retzuis-sparing prostatectomy, is quite revolutionary. The robot holds a camera steady, giving the surgeon an unnatural view that is impossible to get with open surgery.

It allows him to leave all the anchor points of the continence mechanism completely intact that historically had to be taken apart. Research on 200 Italian patients found that 90% are continent.

Policy Manager Tim Windle of Prostate Cancer UK said that although this technique sounds promising, it is early days, as Professor Eden has only been using this method for little over a year. He went on to say that it is important to understand what type of training will be required for surgeons. But for one patient, who sought out Professor Eden specifically, it was enough that one surgeon had the skill.

His personal view is that it could save lives. He believes that to have the option of having surgery without the normal side-effects swings the balance in favour of surgery, as there are men who would rather not have an operation than suffer the consequences of incontinence and impotence.

Once again, this is an exciting development. Your editorial team will do their best to monitor its progress and keep you up to date.

A Bungee Jump for Our Support Group

When **Colin Wakeham** recalls his childhood, one of his best memories is of helping his Dad raise awareness and funds for a charity-sponsored row his Dad did on the Norfolk Broads. The memory is so vivid that it was always Colin's intention to do something similar later in life when a suitable worthwhile cause presented itself. Unfortunately, in May 2016 Colin's Dad was diagnosed with prostate cancer which, because he had put off seeking medical attention for too long, spread to his bladder in August the same year.

Colin works at **Stalham Engineering** and our own **Nigel Gardiner** is one of their regular petrol-station customers. After the diagnosis, Nigel heard Colin talking of his father's condition and introduced himself as the chairman of our Group, explaining what help and support were available for everyone involved in this family trauma.

When Colin's Dad passed away prematurely, it was the catalyst to concentrate Colin's mind back to his childhood memory of the sponsored row. So it was that, after a few years of good intentions, Colin looked for a good cause. In 2016, Colin had missed a group holiday to Scotland with his friends; they had been there the previous year and climbed Ben Nevis. But in missing the 2016 trip, at least he was able to be with his Dad in his time of need.

When plans were being made for a 2017 trip, a Bungee Jump was suggested and agreed. Colin decided to combine his holiday in Scotland with his ambition of supporting a charity, and with

Nigel's help, direction and support, what better than our own Support Group. Six weeks before the trip, Colin gained approval from his employer to place both a collection box and poster in the shop in order to help raise as much money as he could before *'...chucking myself off a bridge on an elastic band...'*

The jump was from a bridge in Killiecrankie and took place on 11th August 2017, very close to the anniversary of his Dad's death. Colin readily admits he was very nervous before 'take-off' but knew he had the responsibility of *'...putting his money where his mouth was...'* He felt that every day someone somewhere had to be brave enough to face their treatment or a doctor's appointment so with those thoughts at the front of his mind, he jumped into the void. He says:-

"The whole thing went buy in a flash to the point that I would struggle to explain it at any length. All I can say is you don't get a lot of time to think when you're hanging upside down". On his return to Stalham, Colin put pictures up by the poster as proof he had done the jump and thanked everyone for their support and help. **A grand total of £459.28 was raised.**



Thank you

As editor, and on behalf of all the members of the Support Group, many congratulations to Colin for a job well done; his contribution is much valued and well received. And we also thank **Stalham Engineering**; your support for the way you allowed Colin to raise the money is much appreciated, too.

OUR WELFARE TEAM

Husband and wife, George & Jill Siely, who live in Happisburgh, are our Welfare Team and are there to give help and support to any member, and/or their family, who requests it.

George and Jill have a contact list of fellow members of our support group and are able to put you in contact with someone who's been on the same prostate cancer journey that you are on. **Please call them on 01692 650617 if you would like to have a chat with either of them.**

How to Contact Us

Specialist Nurses:

Sallie, Wendy, Rachel & Elaine
Norfolk & Norwich University Hospital - 01603 289845

Angie, Wendy & Simon
James Paget Hospital, Gorleston - 01493 453510

Sally, Clare & Anne-Marie
Queen Elizabeth Hospital, King's Lynn - 01553 613075

Help or Advice

We have a number of members who are available to help and there is probably one near you. **For more information please call :-**

George or Jill Siely
on 01692 650617 or e-mail us at nwpcsg@hotmail.co.uk

Letters to the Editor:

Email : geoffreyowalker@googlemail.com

Visit our website: www.prostatesupport.org.uk

Diary Dates

Open Meetings with Speaker

Monday 5th. March
(7.00pm)

**Benjamin Gooch Theatre
Norfolk & Norwich Hospital**

Monday 4th. June
(7.00pm)

**Benjamin Gooch Theatre
Norfolk & Norwich Hospital**

'Meet & Chat' Meetings

Monday 5th February
(7 pm)

**at the Big C Centre
Norfolk & Norwich Hospital**

Saturday 21st. April
(11.45 am)

**Louise Hamilton Centre
James Paget Hospital, Gorleston**

Committee Meeting

Monday 9th April
(7pm)

**at the Big C Centre
Norfolk & Norwich Hospital**

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