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We invite everyone, especially those who were unable to attend, to visit www.ttmed.com/urology/SIU2009 and watch the scientific sessions (19+ hours) that are posted online for review and reference.

In the Long Grass at the SIU

I remember a senior academic telling a story of how he was witness to the first airing of some seminal study; something of the order of importance of the first monoclonal antibody (it might even have been that)... at a late session on the last working day of a conference with only the speaker, the chairman and a couple of others present.

Anyone who wants to know what The Great and Good had to say about trendy issues at the recent Société Internationale d'Urologie (SIU) meeting in Shanghai can undoubtedly find a number of reports documenting these things. What this article sets out to do is look through the (actually or potentially) cancer-related offerings in the un-moderated poster sessions of that meeting to see what promising material was on offer but had not made a big splash with the selection committee. Some will perhaps never figure in our working lives, many will lurk indefinitely in our peripheral vision; one or two just might come to have real significance for us. I know no better than anyone which these might be.

At this point I have to declare my interests, because they inevitably inform my selection, although I have consciously fought against this. I am an elderly cell biologist whose more recent interest has been imaging drug uptake in live cells *in vitro*, of which more below. But I was first attracted into urology and cancer by the late Professor Sir James Fraser at Southampton, who set me to work looking for potential immunological sequelae of cryosurgery using the most hideous liquid nitrogen probes on guinea-pigs [1]. But for the excellent healing properties of cryolesions I would still have the scars on my stomach from wielding these things. So let's start with cryosurgery, which is not exactly in the longest of long grass, but perhaps has not hit the flag the way we might have hoped in the 1970s. The format throughout will be to comment on topics, giving their abstract and page number, as they appear in the conference supplement of Urology [2]

A report (UP-2.144, pS277) from Tel Aviv gave details of 33 patients who had received salvage cryotherapy for radio recurrent prostate cancer. Biochemical recurrence-free survival at two years was 43% (14 patients). Complications were seen in 21 cases. Despite the high complication rate the authors feel the method has potential in selected cases, but larger studies and more follow-up are required. This type of conclusion is typical for a method that has its attractions but performs sub-optimally. It is good that these techniques are kept under review; advances in technology have been substantial but perhaps more is required if cryotherapy is to become more widely used. It is in general terms competing with other forms of ablative treatment, including radio-frequency ablation, which was the subject of two posters (UP-1063, pS189 & UP-1066, p190), both concerned with the treatment of small renal tumours. A total of only 64 patients were treated in both series combined. One claimed over 90% cancer control rate, complications ran at 10-15%. Inevitably the cases selected were those in older or less fit patients where more invasive

methods were not possible. It is a common feature with new or developing strategies that they have to cut their teeth in the least promising scenarios. However another way of introducing new technology is to use it on benign conditions first where failure is a little more acceptable. Such seems to be the approach towards introducing vaporisation techniques with two descriptions of its use in treating benign prostatic hyperplasia (UP-1.044, pS184 & UP-3.085, pS320). Both reported encouraging results in terms of both safety and efficacy. It remains to be seen who may take the plunge by using vaporisation for a malignant condition and, if so, when.

From hi-tech ablation to conventional surgery, it was particularly pleasing for me to read that as my progress towards octogenarian status accelerates, I need not then fear too much the prospect of radical cystectomy which, at least in the Rajiv Gandhi Institute, has "acceptable morbidity and mortality" and potentially offers sustained disease-free survival in that age group (UP-3.031, pS303). More on intermediate technology later.

Having considered the ablation or removal of cancerous lesions, it is appropriate to move on to tissue engineering for reconstruction [3], another topic which requires technological innovation to shoot it from the short rough. UP-1.054, pS187 describes how lingual mucosa cells can be successfully cultured and seeded onto bladder acellular matrix graft (BAMG) material *in vitro*. A further development of the BAMG concept described in UP-2.179, pS288 was to construct a tissue sandwich with urothelial cells on one side of the matrix and smooth muscle cells on the other, mimicking the native bladder structure and providing, the authors claim, a "good technology for further clinical bladder regeneration by the tissue engineering approach". Among the posters relating to products adjunctive to surgery was a description of the successful experimental use of a new surgical glue (UP-1.051, pS186). The abstract concentrates on the properties of the glue; apart from being developed from food additives, nothing is said about its composition.

Moving from surgery to chemotherapy there were three kinase-related studies that caught my eye. One was to do with resistance, or perhaps more accurately, protection of a urothelial cancer cell line to mitomycin, mediated by fibronectin through the P13-k/Akt signaling pathway (UP-3.009, pS297). This is the subject of a full publication now in print [4]. The next-door poster (UP-3.010, pS297) concerned phosphoglycerate kinase as a potential therapeutic target affecting angiogenesis, but from immunohistochemical analysis of clinical bladder cancer material. The third study was on invasiveness in renal cancer cells promoted by gamma-aminobutyric acid through its receptor activation and a MAPKinase pathway. Attempts to individualise chemotherapy are always with us [5] but seem to await the breakthroughs that will see them widely adopted. Poster UP-3.001 offered an autologous cell culture with cyto-immunoassay protocol for tailoring drug



Figure 1: At many meetings (especially surgical ones) form seems to trump substance. Not necessarily so in the SIU Long Grass!

combinations and doses in transitional cell carcinoma of the bladder. It fared well, albeit against a control group receiving BCG only.

It would be nice at this time of year to report an additional, less seasonal and more socially responsible use for mistletoe. Unfortunately, its prospects as the source of a therapeutic agent in bladder cancer do not look bright (UP-3.040, pS306), although in this early study the preparation was probably not tested to its maximum tolerated dose as no adverse effects or biochemistry were observed.

There is an abstract in the book (UP-1.136, pS213) on lycopene chemoprevention in prostate cancer which unfortunately did not make it to the conference as a poster. That was a disappointment for me personally, as I too have worked with lycopene for its affinity with prostasomes and consequent potential effects on fertility as well as cancer [6,7]. Raising serum lycopene levels by administering the agent in capsular form to prostate cancer patients being screened for recurrent disease was accompanied by decreased PSA measurement, compared with rising levels in a placebo control group. Although deliberately avoiding the major presentations, I have to remark here that in a plenary lecture on the nutritional management of prostate cancer, among the supplements and micronutrients currently being tested, lycopene was considered the only one holding up well at the moment. Concerning the aetiology of prostate cancer, one poster noted that the presence of prostate calculi, while not constituting a risk factor, was more common in patients with prostate cancer and associated with a higher Gleason score. (UP-1.114, pS205). Another presentation (UP-2.038, pS244) suggests that BK Polyomavirus can be horizontally as well as vertically transmitted within communities. BKV has a possible role in the initiation of

prostate cancer by encoding oncoproteins interfering with tumour suppressor gene pathways. [8]

Mathematical modeling is a contentious issue [9] that will persist at the fringes of oncological research until computational power and logic progress sufficiently to make meaningful outcomes possible. A small step in this direction is suggested (UP-1.100, pS201) with a program that refines data from PSA measurements to give a “high diagnostic accuracy” (positive and negative predictive values ~85%). Less technically ambitious and with a result suggesting that progress is not always in a forward direction for every circumstance, the application of Partin tables to an Asian population revealed not just that they were a useful tool, but that the 1997 tables performed better than the more recent 2001 version [10,11]!

Another example of beneficially retrograde progress is the description of a simplified TURP procedure “especially for the third world” (UP-3.074, pS317). The unrelenting march of technological sophistication (note the etymology of sophisticated is as a term of disapprobation) should not completely overshadow the need for intermediate technology systems for less affluent medical institutions (and patients) [12].

The application of sociological thinking to medicine produces diverse results and strange language. On the one hand there was a very practical study of prostate cancer awareness in male Chinese city-dwellers (UP-1.134) although the result that more education is desirable was somewhat predicatable. Even more startling was a “Socio-Health Study” (poster number UP-2.137) on attitudes of prostate cancer patients towards their disease. The abstract starts “Considering the ever more prominent role of the patient within

healthcare systems ...” That is either a huge and hopefully unfair indictment of relatively recent medical practice or a statement of the extremely obvious. The observation that a vast majority of patients want to maintain their lifestyles and social or family contacts is unsurprising and it is to be hoped that it would have long been a factor in treatment scheduling.

There was also an interesting historical perspective on the origins of haematoxylin and its importance in the development of histopathology in general and Gleason scoring in particular (UP-3.094, pS323).

I have to finish as I started, with a personal note. I too was there in the deep rough at the SIU with a description of how my passion of recent years, cellular imaging of drug uptake using unlabelled agents visualised in live cells, finds its latest expression in the investigation of whether mid-range Fourier Transform Infrared (FT-IR) microspectroscopy offers any solutions (UP-1.119 pS207). In this poster I concentrated on the use of oil overlays to protect live cells during the imaging process. I’m not at all sure that FT-IR will ever rival fluorescence as an application in live-cell imaging, but in science as in romance, great fun can be had in the long grass - sometimes with unexpectedly creative results. ■

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