INVITED PRESENTATIONS AND ORAL ABSTRACTS

abs#1

SPERM BANKING: A (SOMEWHAT) PRACTICAL GUIDE

Eric Chung[1]

Princess Alexandra Hospital, Brisbane/Woolloongabba, QLD, Australia

A review of the process of sperm banking and contemporary understanding of the pathophysiologic mechanisms relating to male infertility. This presentation will also explore current medical and surgical options in sperm retrieval techniques and technology. Lastly, it is important to highlight the need for a coordinated multispecialty input in managing men with reproductive concern

abs#2

THE POWER OF MANY PROSTATE CANCER REGISTRIES

Jeremy Millar

Alfred Health, Melbourne, Victoria, Australia

Prostate cancer is common and costly in Australia. Often it can be cured with surgery or radiation, but there is also potential for "over-diagnosis," "over-treatment" and treatment side-effects. There is a wide variety of treatment patterns and survival within Australian regions. Population-based clinical quality registries provide a mechanism to allow insights into patterns of presentation, treatment and outcomes — especially if they use patient reported outcome measures (PROMs) — and for systematic improvements in quality of care.

This presentation describes genesis, evolution and plans for a population-based prostate cancer outcomes registry (PCOR) in Australia and New Zealand (ANZ); how it is supporting and collaborating with similar international efforts; and how it might facilitate improvement in outcomes for men, and in the value of care provided by the health care system.

A South Australia (SA) institution-based PCOR commenced in 1998, now collects 82% of new SA diagnoses, and is collecting PROMs regularly for 3 years. A Victoria (Vic) population-based opt-out PCOR started in 2009, expanding over the next 5 years to cover approximately 75% of Vic incident cases and contacts men for 2 years for validated PROM items. In 2013, the Movember Foundation supported the design of a larger National PCOR bringing the two states together, and planning to add other state-based registries for an Australian federated model, centralized in Melbourne, designed to use the International Consortium for Health Outcome Measures standard. New Zealand joined to create PCOR-ANZ, and the first non-SA and non-Vic patients entered in 2016. Movember is currently committing $3M Australian into an international cooperative project, the "Prostate Cancer Outcomes Global Initiative to Compare and Reduce Variation", coled by UCLA and Monash to bring together more than 25 international registries and hospitals from Australia, North America, Europe, Britain and Ireland.

PCOR-SA and PCOR-Vic provided feedback to hospitals and clinicians, the latter also reporting "quality metrics" derived in a modified Delphi process.

The PCOR-Vic and PCOR-SA showed changes in the patterns of presentation and care over time, and variation by geography, modality of care and practice type. PCOR-Vic data provided insights into causes of regional outcome variation and suggest targeted strategies for improvement. Feedback reporting by PCOR-Vic has been associated with improvements in surgical results generally, and more appropriate care of specific groups.

PCOR-Vic and PCOR-SA have reported and influenced practice; lessons from these registries informed binational PCOR development and international registries. A population-based rapid-accrual opt-out model registry has the potential to provide mechanisms to provoke and guide real improvements in outcome for men with prostate cancer — and to the extent it can be linked to the costs of providing this care — contribute to improving the value of the prostate cancer care.

abs#3

TRANSLATING RESEARCH INTO PRACTICE

Dean Bajorin[1]

[1]*Memorial Sloan Keterin Cancer Centre, New York, United States*

Continually enhancing the quality of cancer care is the aspiration of every cancer center. Thus, advances and refinement in cancer treatment must be integrated into evolving treatment principles. This presentation will use the muscle-invasive bladder cancer disease state to identify strategies to translate research into practice. Identifying and exploiting equipoise in urologic cancers will be discussed in the context of this disease state. For example, level 1 evidence shows that patients with muscle-invasive bladder cancer have a superior survival when treated with cisplatin-based therapy prior surgery. Yet, which regimen is best to pursue, how much therapy is optimal, and the best post-chemotherapy surgery are important research questions. And how might a team strategize to select patients who are most likely to benefit from chemotherapy and spare those who will not benefit? In the context of standard clinical care, how does the research team introduce new drugs or treatment paradigms? In this context, how does the greater oncology community evaluate compliance for incorporating the best possible evidence for standards of care so that all patients benefit?

abs#4

GETTING THE MESSAGE OUT TO THE COMMUNITY

John Oliffe[1]

UBC Canada, Vancover, Canada

The focus of this presentation is to share some examples for messaging men regarding the importance of clinical trials, Prostate Specific Antigen screening, and the need to be active in their health and treatment decisions. In thoughtfully considering how masculinity influences men's receptiveness to, and actions toward health promotion, some principles for engaging men more fully in their health are offered. Discussed are the affirmation and permission of other men, the use of action-orientated language and the influence of men's protector and provider roles in doing health for significant others.

abs#5

THE PROTECT STUDY

Freddie Hamdy

Nuffield Department of Surgical Sciences, University of Oxford, Headington, Oxford, UK

The Protect (prostate testing for cancer and treatment) phase III randomized trial investigated the treatment effectiveness of the three conventional therapeutic options in Prostate Specific Antigen-detected prostate cancer in nine centers of the United Kingdom between 1999 and 2008. A total of 228,966 men aged 50–69 years, registered at 337 primary care centers, were invited to attend a specialist nurse appointment for a serum PSA test. Prostate biopsies were offered to men with a PSA concentration of 3.0 μg/L or higher. Consenting participants with clinically localized prostate cancer were randomly assigned to active monitoring (surveillance strategy), radical prostatectomy or three-dimensional conformal external-beam. Randomization was stratified by site (minimized for differences in participant age, PSA results and Gleason score). Of the invited men, 100 444 (44%) attended their initial appointment and 82 429 (82%) of attenders had a PSA test. PSA concentration was below the biopsy threshold in 73 538 (89%) men. Of the 8566 men with a PSA concentration of 3.0–19.9 μg/L, 7414 (87%) underwent biopsies. A total of 2896 men were diagnosed with prostate cancer (4% of tested men and 39% of those who had a biopsy), of whom 2417 (83%) had clinically localized disease (mostly T1c, Gleason score 6). In total, 2664 men were eligible for the treatment trial and 1643 (62%) agreed to be randomly assigned (545 to active monitoring, 545 to radiotherapy and 553 to radical prostatectomy). Clinical and socio-demographic characteristics of randomly assigned participants were balanced across treatment groups. Participant clinico-pathological

features were more consistent with contemporary patient characteristics than in previous prostate cancer treatment trials. The primary endpoint was prostate cancer mortality at a median 10-year follow-up, ascertained by an independent committee. Secondary endpoints included clinical disease progression, metastases and patient-reported outcomes. Analysis was completed in 2016. The trial will be discussed, and results will be presented subject to lifting of any publication embargo imposed by the relevant journal at the time of presentation.

abs#6

EXPLORING THE POTENTIAL ROLE OF RADIATION AS A VACCINE IN BOTH RENAL AND UROTHELIAL CANCERS

Piet Ost[1]

[1]*Ghent University Hospital, Ghent, Belgium*

Radiotherapy (RT) is an integral cancer therapy for many malignancies, both in the curative and palliative setting. Typically, RT is delivered conventionally, in small daily doses over a timespan of several weeks. Recent advances in imaging, tumor motion management and RT planning have increased the precision of RT delivery. Application of these technologies now allows for the safe delivery of a few, large, intracranial and extracranial RT doses that directly target tumors while excluding surrounding healthy tissues. Commonly termed Stereotactic radio surgery (SRS) when delivered to intracranial targets and stereotactic body RT (SBRT) when delivered to extracranial targets, these treatments have generally led to promising treated tumor control rates with limited toxicity, potentially engaging additional antitumor pathways. Both SRS and SBRT have also challenged the dogma that renal and urothelial cancers are radiation resistant.[1] It also appears that SBRT has different immunomodulatory effects as compared to conventionally fractionated RT, which traditionally is considered immunosuppressive.[2]

These findings in combination with the revolution in immunotherapy agents over the past few years hold a tremendous opportunity to clinically evaluate the potential for synergy as these fields converge. The greatest challenge will be to do a proper selection of the optimal combination based on a sound rationale, and patient selection will be the key.[2]

References

1. De Meerleer G, Khoo VS, Escudier B *et al*. Radiotherapy for renal-cell carcinoma. *Lancet Oncol* 2014.
2. De Wolf K, Vermaelen K, De Meerleer G, Lambrecht BN, Ost P. The potential of radiotherapy to enhance the efficacy of renal cell carcinoma therapy. *Oncoimmunology* 2015; **4**: e1042198.

abs#7

GUOMICS OF BLADDER CANCER

Dean Bajorin[1]

[1]*Memorial Sloan Keterin Cancer Centre, New York, United States*

The use of next generation sequencing has the ability to transform therapeutics in urothelial cancer. The first major sequencing effort performed by The Cancer Genome Atlas (TCGA) on muscle-invasive bladder cancers provided a glimpse into urothelial biology. The findings of these studies include the observations that bladder cancer has a high mutation rate, that there are altered genes in common with many other cancers, and that many of these altered genes are potentially targetable with drugs used in other cancers. The potential of this approach is evidenced by reports of patients whose disease has progressed despite chemotherapy and surgery who have subsequently shown prolonged remission from targeting such genes. Clinical trials are now ongoing targeting genes with drugs used for renal cell carcinoma, breast cancer and melanoma based on this evolving biology as well as novel agents targeting aberrant genes involved in cell cycling and other recently discovered targetable genes. These innovations provide the opportunity for centers to rapidly sequence patients' tumor DNA to identify aberrant genes for therapeutic benefit. This "precision medicine" approach for both standard and investigational drugs in bladder cancer provide therapeutic options similar to the that used in melanoma and lung cancer.

abs#8

THE REKINDLE STUDY: AN AUSTRALIAN RANDOMIZED PHASE II STUDY ASSESSING FEASIBILITY OF AN ONLINE INTERVENTION TO PROMOTE SEXUAL WELL-BEING FOR BOTH CANCER SURVIVORS AND THEIR PARTNERS

Haryana M Dhillon[1], Kevin Mcgeechan[1], Phyllis N Butow[1], Ilona Juraskova[1], Kim Hobbs[2], Fran Boyle[1], Judy Kay[1], Annie Miller[3], Douglas Williams[1], Catalina Lawsin[4]

[1]*University of Sydney, Sydney, New South Wales, Australia*, [2]*Crown Princess Mary Cancer Care Centre, Westmead Hospital, Westmead, New South Wales, Australia*, [3]*Cancer Council NSW, Woolloomooloo, New South Wales, Australia*, [4]*RUSH Medical Centre, Chicago, Illinois, USA*

Background: Many people diagnosed with cancer experience changes in sexual function due to disease and/or side effects of treatment. Long-term sexual changes can lead to psychological distress and reduced quality of life for survivors and partners. We developed *Rekindle*, a web-based psycho-educational intervention, to provide accessible, tailored psychosexual support to cancer survivors.

Objectives: To determine acceptability, feasibility and usability of the Rekindle program.

Methods: The Rekindle study is a three-arm phase II randomized control trial conducted over 6 months.

Treatment groups: Rekindle, Rekindle Plus (self-led plus three navigational support calls) and Attention Control.

The Rekindle intervention incorporates seven evidence-based modules empowering users to manage sexual changes, and the content is delivered via the internet as written information, video, tutorials and exercises. Two modules are mandatory and five tailored to user's sexual concerns. *Rekindle* is tailored to gender, patient/partner, single/partnered and sexual preference requiring a total of 12 versions of materials, all subject to individualized prescription of modules. Attention control participants are provided written information via the internet during the first 10 weeks, and then given access to Rekindle.

The primary outcome is percentage of prescribed modules completed, and the secondary aim is to improve sexual satisfaction measured by Patient Reported Outcomes Measurement Information System (PROMIS) sexual satisfaction scale. One-hundred seventy adult cancer survivors who completed primary cancer treatment 6 months prior to enrollment and/or their partners who identify at least one psychosexual unmet need are being recruited.

Results: To date, 81 people have been randomized; participant age ranges from 22 to 80 years, 62% are men, 91% had cancer themselves, 72% are in a relationship and 96% identify as heterosexual. Participants have enrolled from across the country, with 60% from major cities, 23% inner regional areas, 14% outer regions and 1% very remote.

Conclusions: *Rekindle* enrollment to date highlights the extent of psychosexual unmet needs in Australian cancer survivors.

abs#9

QUALITY OF LIFE OF PATIENTS TREATED WITH RADICAL ADAPTIVE IMAGE-GUIDED RADIOTHERAPY FOR MUSCLE INVASIVE BLADDER CANCER

Farshad Foroudi[1,2], Mathias Bressel[3], Angelo Iezzi[4], Tomas Kron[5], Aldo Rolfo[6], Alex Tan[7], Colin Tang[8], Jeffrey Richardson[4]

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Table 1. AQ0L-8D mean difference in scores from baseline (95% confidence intervals)

	End of treatment – baseline		1 month F/U – baseline		18 months F/U – baseline	
Dimension	meandiff (95% CI)	*P*-value	meandiff (95% CI)	*P*-value	meandiff (95% CI)	*P*-value
Independent living	–0.01 (–0.07 to 0.06)	0.872	0.02 (–0.04 to 0.09)	0.532	0.07 (–0.01 to 0.15)	0.075
Happiness	0.02 (–0.04 to 0.08)	0.552	–0.03 (–0.09 to 0.04)	0.386	–0.03 (–0.11 to 0.05)	0.450
Mental health	0.03 (–0.03 to 0.09)	0.360	–0.08 (–0.14 to –0.02)	0.011	–0.06 (–0.14 to 0.01)	0.099
Coping	0.08 (0.02–0.14)	0.008	0.01 (–0.05 to 0.07)	0.795	0.02 (–0.05 to 0.09)	0.619
Relationships	0.04 (–0.03 to 0.11)	0.239	0.02 (–0.05 to 0.09)	0.546	0.05 (–0.04 to 0.13)	0.294
Self-worth	–0.02 (–0.08 to 0.04)	0.526	–0.02 (–0.08 to 0.04)	0.569	–0.04 (–0.11 to 0.03)	0.276
Pain	0.02 (–0.07 to 0.11)	0.649	–0.07 (–0.17 to 0.03)	0.151	0.01 (–0.10 to 0.13)	0.843
Senses	–0.05 (–0.10 to 0.00)	0.040	–0.04 (–0.08 to 0.01)	0.153	–0.04 (–0.10 to 0.02)	0.147

Cancer Centre, Townsville, Queensland, Australia, [8] *Radiation Oncology, Sir Charles Gardnier Hospital, Perth, Western Australia, Australia*

Purpose: To outline the quality of life (QoL) of participants in a multicenter study of radical radiotherapy for muscle invasive bladder (MIBC) using an adaptive image-guided technique.

Materials and Methods: QoL was measured using the European Organisation for Research and Treatment of Cancer (EORTC) QoL questionnaires C30 and BLM30 (scores from 0 to 100), and the Australian Assessment of Quality of Life (AQoL)-8D was assessed at baseline prior to radiation treatment, during the last week of radiation treatment, 1 month after and 18 months after radiation treatment. Linear mixed models (LMMs) were used to assess the QoL endpoints. Contrasts from the LMM were used to assess change from baseline to end of treatment (Δ end), 1 month follow-up (Δ1 m) and 18 months follow-up (Δ18 m)

Results: Fifty participants were recruited across 12 institutions. The EORTC QLQ-C30 Global health status was 70 (65–76) at baseline, 65 (59–71) at end of treatment, 70 (64–76) at 1 month follow-up and 70 (62–78) at 18 months follow-up. The functional scales that showed a statistically significant change were physical functioning (Δ18 m [95% confidence interval] of –10 [–16 to –4], $P = 0.002$) and role functioning (Δend of –10 [–18 to –1], $P = 0.022$). The symptoms that showed a statistically significant change were fatigue (Δend of 13 [6–19], $P < 0.001$) and diarrhea (Δend of 10 [2–19], $P = 0.018$). For bladder-specific QoL – the statistically significant differences were urinary symptoms (Δend of –13[–20 to –5], $P = 0.001$), future perspectives (Δend of 10 [2–17], $P = 0.015$, maintained until the end of study) and abdominal bloating (Δ18 m of 8 [2–15], $P = 0.011$). See Table 1 for AQoL-8D results.

Conclusions: Radical adaptive image-guided radiotherapy for MIBC has an impact on QoL only in some domains and generally between baseline and the end of treatment, and by 1 month follow-up QoL had returned to baseline.

abs#10

LONG-TERM OUTCOMES OF ACCELERATED BEP (BLEOMYCIN, ETOPOSIDE, CISPLATIN) FOR ADVANCED GERM-CELL TUMORS: UPDATED ANALYSIS OF AN AUSTRALIAN MULTICENTER PHASE II TRIAL

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Background: We performed a single arm, multicenter, phase II trial of accelerated (dose-dense) bleomycin, etoposide and cisplatin (BEP) as first-line chemotherapy for advanced germ-cell tumors. Accelerated BEP was found to be feasible and tolerable, with promising efficacy[1]. Here, we report on outcomes given long-term follow-up.

Methods: Patients with extracranial advanced germ-cell tumors of any risk group and radiologically measurable disease received cisplatin 20 mg/m^2 and etoposide 100 mg/m^2 on days 1–5, and pegylated Granulocyte-colony stimulating factor (G-CSF) 6 mg on day 6, all repeated every 2 weeks for four cycles (three cycles for good risk). Bleomycin was given at 30 kIU weekly to a total of 12 doses (nine doses for good risk). Primary endpoint was regimen feasibility (previously reported).

Results: Forty-three eligible patents were enrolled between February 2008 and November 2010 from 14 Australian sites. Twelve had poor-risk disease, 16 intermediate-risk disease and 15 good-risk disease. With a data cutoff of 1 November 2015, median follow-up was 6.2 years (interquartile range: 5.7–6.5) for survival and 6.2 years (interquartile range: 5.7–6.4) for relapse. Eight patients have relapsed. Two relapses occurred within 3 months of enrollment (refractory disease), six relapses occurred between 3 and 15 months (early relapse) and no late relapses occurred. Three patients have died (all following relapse; one died due to an unrelated malignancy). Five-year progression-free survival was 50% (95% confidence interval [CI]: 21–74%) for poor-prognosis patients, 94% (95% CI: 65–99%) for intermediate-prognosis patients and 93% (95% CI: 61–99%) for good-prognosis patients. Five-year overall survival was 92% (95% CI: 54–99%) for poor-prognosis patients, 94% (95% CI: 63–99%) for intermediate-prognosis patients and 100% (95% CI: NA) for good-prognosis patients.

Conclusions: The long-term efficacy data of accelerated BEP remain promising. This trial and a similar UK study provide the rationale for a currently recruiting Australian-led international randomized trial comparing accelerated versus standard BEP.

Reference

1. Grimison PS, Stockler MR, Chatfield M *et al*. Accelerated BEP for metastatic germ cell tumours: a multicenter phase II trial by the Australian and New Zealand Urogenital and Prostate Cancer Trials Group (ANZUP). Ann Oncol 2014; 25: 143–148.

abs#11

GALLIUM-68 PSMA PET CT AND LUTETIUM-177 PSMA IN PROSTATE CANCER

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Ga-68 PSMA PET-CT is fast becoming the most sensitive imaging study for evaluation of metastatic prostate cancer and may have a role in initial staging of primary high-grade tumors. It also allows assessment for Prostate specific membrane antigen (PSMA) receptor status for assessing patients suitable for targeted therapy with Lu-177 PSMA. Since 2015, Oceanic Molecular, based at Hollywood Private Hospital in Perth, has performed over 300 Gallium-68 PET CT scans in prostate cancer patients. Interim analysis confirms high sensitivity for diagnosing metastases in patients with rising Prostate specific antigen (PSA). Our interim results indicate sensitivity of 90% in diagnosing metastases from prostate cancer in patients with rising PSA greater than 1.5 ng/L and 72% in patients with rising PSA between 0.5 and 1.5. In patients with isolated small volume nodal disease found by Ga-PSMA PET CT suitable for salvage radiotherapy than intervention with radiotherapy have shown a decrease in almost all patients in PSA. Since 2015, Theranostics Australia (based at Diagnostic Nuclear Imaging, Hollywood Private Hospital) in Perth has treated 20 prostate cancer patients with either progressive and/or metastatic prostate cancer where other therapies have not been possible or have failed (e.g. Androgen Deprivation Therapy (ADT) and chemotherapy) with Lu-177 PSMA. Our initial results mimic the findings in the limited literature with 70–80% response rates (based on imaging or PSA reduction). This is with very low toxicity and with a minimal side effect profile. Responses have been evident with small volume (e.g. nodal disease) to widespread disease (i.e. extensive nodal and bone disease). Initial progression-free survival data suggest prolonged remission compared with other salvage therapies. The emerging role of Ga-68 PSMA PET CT and molecular-targeted therapy with Lu-177 PSMA in prostate cancer, based on our growing experience in Perth, will be discussed with a view to developing more formal trials utilizing these techniques.

abs#12

SAFETY AND EFFICACY OF STEREOTACTIC ABLATIVE BODY RADIOTHERAPY FOR PRIMARY RENAL CELL CARCINOMA (RCC): PRINCIPAL ANALYSIS OF THE FASTRACK CLINICAL TRIAL

Shankar Siva[1,2], Tomas Kron[1,2], Mathias Bressel[1], Bimal Parameswaran[1], Mark Shaw[1], Suki Gill[1], Daniel Pham[1], Jaqueline Lam[1], Price Jackson[1], Keen-Hun Tai[1], John Violet[1], Teng Han Tan[1], Brent Chesson[1], Jeremy Goad[1], Declan Murphy[1,2], Nathan Lawrentschuk[1,2], Eddie Lau[1,2], Farshad Foroudi[1,2]

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Purpose: Safety and efficacy of stereotactic ablative body radiotherapy (SABR) is an emerging therapy for inoperable primary RCC.[1] The purpose of the FASTRACK clinical trial was to evaluate feasibility and safety of this approach. Secondary objectives were to describe freedom from local progression (FFLP) and freedom from distant progression (FFDP), overall survival (OS) and change in renal function.[2]

Methods: FASTRACK was a prospective phase Ib study recruiting patients between 2012 and 2014 with localized inoperable RCC of ECOG performance 0–2. Tumors of <5 cm were prescribed 26Gy in a single fraction, while those of ≥5 cm were prescribed 42Gy in three fractions.[3] Tumor progression was defined using RECIST 1.1 criteria. Toxicities were recorded using CTCAE v4.0. Time-to-event outcomes were calculated using Kaplan–Meier method and Glomerular Filtration Rate (GFR) loss using paired t-test.

Results: Thirty-seven patients were recruited, with 28 males and nine females participating. In total, 33 patients and 34 kidneys received SABR (89% feasibility). The median age was 78 years and median follow-up was 24 months (12–36 months). Histology was confirmed in 89%. Median tumor diameter was 4.8 cm (2.1–7.5 cm), with equal proportion of tumors prescribed single-fraction and three-fraction SABR. Treatment-related grade 1–2 toxicities were sustained in $n = 26$ (78%) and grade 3 toxicity in $n = 1$ (3%). No grade 4–5 toxicities were recorded, and $n = 6$ (18%) reported no treatment-related toxicities. The FFLP, FFDP and OS at 2 years were 100%, 89% (95% confidence intervals [CIs] [78–100]) and 92% (95% CIs [81–100]), respectively. One patient progressed locally at 28 months post-SABR. The mean pretreatment GFR was 92 mL/min, which decreased at 1 year by 19 mL/min (95% CIs [10–28], $n = 29$, $P < 0.001$). No patient underwent dialysis.

Conclusion: Despite treatment of predominantly large renal tumors, one- and three-fraction SABR for primary RCC was well tolerated. We observed highly encouraging cancer control, OS and preservation of renal function in an inoperable cohort.

References

1. Siva S, Ellis RJ, Ponsky L *et al*. Consensus statement from the International Radiosurgery Oncology Consortium for Kidney for primary renal cell carcinoma. *Future Oncol* (London, England) 2016; **12**: 637–45.
2. Siva S, Jackson P, Kron T *et al*. Impact of stereotactic radiotherapy on kidney function in primary renal cell carcinoma: establishing a dose–response relationship. *Radiother Oncol* 2016; **118**: 540–46.
3. Pham D, Thompson A, Kron T *et al*. Stereotactic ablative body radiation therapy for primary kidney cancer: a 3-dimensional conformal technique associated with low rates of early toxicity. *Int J Radiat Oncol Biol Phys* 2014; **90**: 1061–8.

abs#13

A RANDOMIZED CONTROLLED TRIAL OF ROBOTIC VERSUS OPEN RADICAL PROSTATECTOMY: EARLY OUTCOMES

Robert ('Frank') Gardiner[1], John W Yaxley[1], Geoffrey D Coughlin[1], Suzanne K Chambers[2,3,4,5,6], Stefano Occhipinti[3], Hema Samaratunga[2,7], Leah Zaidlewicz[2], Nigel Dunglison[1], Rob Carter[8], Scott Williams[9], Diane J Payton[10], Joanna Perry-Keene[10], Martin F Lavin[2]

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Background: The lack of trial data comparing robot-assisted laparoscopic prostatectomy (RALP) and open radical retropubic prostatectomy (RRP) is a critical knowledge gap in uro-oncology. A randomized controlled trial (RCT) compared these two approaches on functional and oncological outcomes.

Method: A phase III RCT compared RRP with RALP: 326 men with localized prostate cancer were randomized (RRP $n = 163$ and RALP $n = 163$), 18 withdrew and 151 and 157, respectively, proceeded to surgery. Primary outcomes were urinary and sexual function. Secondary outcomes included bowel function and health-related quality of life, pain, time to return to usual activities up to 12 weeks postsurgery and positive surgical margins.

Findings: The results at 6 and 12 weeks postsurgery and time to return to work will be presented.

Registration: The trial was registered with the Australian New Zealand Clinical Trials Registry, number ACTRN12611000661976.

Funding: Cancer Council Queensland.

abs#14

STATE OF THE ART IN PENILE CANCER MANAGEMENT

Justin Chee

[1]*MURAC Health, East Melbourne, VIC, Australia*

Overview of current best practice in management of penile cancer focusing on:

Update on guidelines

Penile preservation surgery

Sentinel inguinal lymph node biopsy

Adjuvant therapy in advanced disease

Total phalloplasty following radical penile amputation

Centralization of penile cancer management to optimize outcomes/survival

abs#15

IMMUNOTHERAPY FOR UROTHELIAL CANCER: NEW BIOLOGIC UNDERSTANDING AND NEW THERAPEUTIC OPPORTUNITIES

Dean Bajorin

[1]*Memorial Sloan Keterin Cancer Centre, New York, United States*

It has long been known that urothelial cancer is a highly immunogenic cancer. The use of BCG for non-muscle invasive bladder cancer has been the mainstay of treatment for decades. Additionally, studies demonstrate that patients with muscle invasive tumors demonstrating infiltration by CD8 positive T cells have a better long-term survival than those patients whose tumors lack an intrinsic immune response. Moreover, it has been shown that urothelial cancer in general has a high mutational rate and expresses PD-L1 immune cells and tumor cells. Recent data showed that checkpoint blockade therapy is highly active in this disease. Just recently, the FDA in the United States approved the first checkpoint blockade agent for previously treated urothelial cancer based on encouraging response and survival data. This clinical activity, including patients who experienced complete remission despite chemotherapy resistant cancer, has spawned a large number of trials in the metastatic, muscle invasive and even non-muscle-invasive disease settings. This presentation will focus on recent clinical data and emerging biologic data for checkpoint blockade in urothelial cancer.

abs#16

STATE OF THE ART IN TESTIS CANCER MANAGEMENT

Peter Grimison

This talk will summarize recent advances in management of testis cancer, including:

1. strategies to improve prognostication based on tumor- and blood-based molecular markers and updated clinical databases;
2. modern approaches to stage I disease that minimize exposure to chemotherapy and radiation from CT scans;
3. management of treatment-refractory disease.

abs#17

SEXUAL REHABILITATION: REDUCING PATIENT REGRET FOLLOWING PROSTATE CANCER TREATMENT

Michael Gillman

Pelvic Medicine Centre, St Andrew's War Memorial Hospital, Brisbane, Queensland, Australia

The management of patients with prostate cancer has evolved to include a multidisciplinary team of professionals including urologist, pelvic floor physiotherapist, sexual health physician, prostate cancer nurse, radiation oncologist and so forth.

Recent clinical papers exploring patient regret following prostate cancer treatment have determined that sexual dysfunction is one of the main reasons that patients regret having undergone their treatment.

Sexual rehabilitation is now recognized as an integral component of the management of men with prostate cancer who wish to preserve their sexual function. This presentation will outline the physiological changes that occur following disruption to the cavernous nerve and management options that are available to preserve sexual function.

abs#18

DEPRESSION AND SUICIDE IN YOUNG MALE GU PATIENTS

John Oliffe

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The discordant relationship between men's low rates of diagnosed depression and high suicide rates suggests that we need to better understand and engage men with mental health care services. Discussed in this presentation are signs and symptoms central to male depression, many of which are not tested in generic depression screening tools, and the much cited reticence of men to access mental health care services. In the specific context of young male Genitourinary (GU) patients, injury, interiority and isolation are defined and linked to suicidality in offering clinical and research strategies to advance the mental health of this vulnerable subgroup.

abs#19

EXERCISE AS A SYNERGISTIC MEDICINE FOR PROSTATE CANCER

Daniel Galvão

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An increasing quality and quantity of retrospective and observational studies are demonstrating highly meaningful survival benefits for people with cancer if they maintain a certain volume and intensity of physical activity. For example, Kenfield et al[1] reported 61% lower risk of prostate cancer specific death in men who performed more than three hours per week of vigorous activity. What must now be demonstrated is the survival advantage that can be achieved through targeted exercise medicine specifically prescribed to address the cancer type, stage of disease, treatment side effects and comorbidities. Our hypothesis is that the relative rate of mortality will be even lower for those patients who undertake tailored exercise medicine. INTERVAL MCRPC is a multicentre, randomised, controlled phase 3 trial[2] evaluating highly specific anabolic and aerobic exercise prescription tailored for men with metastatic castrate-resistant prostate cancer with the primary outcome being overall survival. The second research priority is to determine the specific mechanisms by which certain exercise modalities and dosages actually impact tumour biology. To date the majority of research exploring this avenue has been conducted in animal or in-vitro models and demonstrating quite astounding and complex effects directly on tumour tissue and individual cancer cells. For example, Rundqvist et al[3] exposed prostate cancer cells in-vitro to human serum drawn post 60 minutes of cycling exercise and reported 31% inhibition of cell growth. Pedersen et al[4] reported exercise to suppress tumour growth through NK cell mobilization and tumour infiltration in rodents.

Potential mechanisms currently being explored include[5]:

1) Modulation of circulating factors including both hormones and cytokines (e.g. insulin, sex-steroid hormones, myokines and adipokines).
2) Improved immune function through increased cell surveillance, activation, and infiltration by the innate system.
3) Proliferation of hormone receptors in non-tumour tissues reducing bioavailability for cancer cells.
4) Reduced systemic inflammation and oxidative stress.
5) Increased tumour blood perfusion enhancing immune system effectiveness as well as chemotherapy delivery.
6) Epigenetic modulation of gene expression and telomere alterations and telomerase activity.
7) Platelet cloaking of circulating tumour cells.
8) Hyperthermia resulting from exercise sufficient to induce tumour cell apoptosis.

The pursuit of understanding of these mechanisms combined with existing knowledge of exercise benefits for associated comorbidities is critical for more effective and efficient prescription of exercise medicine for cancer management. Further, there is the potential for the development of novel molecules for delivery of exogenous medicine to treat cancer or enhance the effects of exercise. The potential of exercise as a medicine for cancer management working independently and synergistically with other therapies is considerable and must be incorporated into standard care of people with cancer.

References
1. Kenfield et al: Journal of Clinical Oncology, 29:726–32, 2011
2. Saad, Newton et al: American Society for Clinical Oncology, Chicago, June 3–7, 2016, 2016
3. Rundqvist et al: PLoS One 8:e67579, 2013
4. Pedersen et al: Cell Metab 23:554-62, 2016
5. Galvao, Newton et al: Nat Rev Urol, 10.1038/nrurol.2016.46, 2016 10.1038/nrurol.2016.46, 2016

abs#20

EVIDENCE-BASED SURVIVORSHIP CARE

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There are nearly half a million cancer survivors in Australia with numbers growing due to earlier detection and better treatment. There are a myriad of different definitions of survivorship, but they generally encompass the process of living with, through and beyond cancer. Some groups break the process down into acute survivorship, extended survivorship and permanent survivorship. While it is easy to define evidence-based care in the acute phase of treating a malignancy as we have randomized controlled trials, meta-analyses, etc., it is more difficult to gather high-level evidence pertaining to survivorship care. It is important that we define the aspects of survivorship care, the evidence that these interventions benefit the quality of life of the survivors and the role of different team members in the delivery of survivorship care. Survivorship care plans facilitate cancer care following active treatment. They serve as important communication to the patient, their family and their primary care physician. Each different malignancy and indeed each individual will have a unique survivorship care plan based on the evidence for interventions during follow-up, occurrence of late effects and individual psychological and support needs. The introduction of the Australian Centre for Survivorship Care and several other specialized survivorship care services has allowed us to gather better evidence for the utility of interventions in the Australian context, but there is still a lot we can learn in this space about what we should offer and how we should offer the services and the benefits we hope to achieve.

abs#21

MEN'S HELP-SEEKING AFTER CANCER TREATMENT

Melissa Hyde

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Men experience a range of psychological and health-related quality of life impacts after treatment for genitourinary cancer. However, their decisions to seek help for their concerns are less well described. Initially, this presentation will overview what we currently know about men's help-seeking after genitourinary cancer treatment and their health/support service utilization. Following this, using men with prostate cancer as an exemplar, three recent studies will be presented involving quantitative (study 1 $n = 510$ and study 2 $n = 331$) and qualitative (study 3 $n = 15$) work to examine men's help-seeking for their physical, psychological, sexual and practical concerns after prostate cancer. Specifically, men's supportive care needs; their use of different sources of support to address their physical and psychological concerns after cancer treatment (e.g. doctor and peer support); and the demographic (e.g. age) and psychosocial factors (e.g. distress and masculinity) that contribute to their decisions to use support previously and in the future will be described. The presentation will also draw specific focus to the experience of younger men.

abs#22

"COMIC OPERA" IS DEAD … SURGICAL RESEARCH IS ALIVE AND WELL

Freddie Hamdy

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It is a well-known conception, popularized in the mid-1990, that surgical research was no more than a "comic opera," with few exceptions. Regrettably, much of this carried truth. "*Many questions were being asked, but few answers were given.*"[1] Root causes were multifactorial, including the complexity of conducting high-quality research by craft specialties, the lack of protected academic time, ill-designed career structures and expectations of competitive outputs by Higher Education Institutions. A further hindrance to high-quality surgical research has been the antiquated "silo" culture entertained by many surgeons, and lack of multidisciplinary research approaches to unmet needs in surgical practice. Many of these issues have been addressed and resolved over the past two decades. From new, structured surgeon scientist careers to well-funded high-impact clinical trials, innovation and testing of interventional technologies, surgical research is now thriving and can be redefined as follows:

"*Where conventional and/or minimally invasive surgical interventions can be tested, compared and evaluated, including the precise delivery of ablative energy. Where surgical techniques, used alone or in combination with other treatment options (physical or systemic) can be investigated to improve outcomes and cure, enhanced by functional imaging, whilst reducing adverse events from individual treatment options. And where surgical interventional procedures can be improved by targeting the right patient through novel and experimental genetic, epigenetic or biochemical markers.*"

Exemplars of ongoing translational research will be given, with an emphasis on prostate cancer biomarkers and imaging. Prostate Specific Antigen (PSA), discovered over three decades ago and used widely, lacks sufficient sensitivity and specificity to be used as a viable screening test, particularly after the realization that there is no serum PSA threshold, below which a man can be told that he does not have prostate cancer. The discovery and investigation of PSA isoforms and other members of the kallikrein family demonstrated that if measured in combination, these markers might refine both the diagnostic and prognostic capability of PSA. Following a number of Genome Wide Association Studies, and more recently, mapping somatic mutations, there has been an explosion of novel findings defining genetic changes associated with the risk of developing prostate cancer, and defining lethal disease. The key to such studies and the development of biomarkers is the provision of carefully biobanked sequential material from well-annotated and phenotyped cohorts of patients and controls, ranging from tumor/germline DNA, RNA, through to high-quality serum, plasma and urine sample collections, as well as evaluating new imaging technologies to offer precision surgery to our patients. It is likely that these combined global efforts will allow clinicians to personalize the treatment of prostate cancer, and administer appropriate therapies to patients suffering from this ubiquitous disease.

Reference
1. Horton R. Surgical research or comic opera: questions, but few answers. *Lancet* 1996 (Apr 13); **347** (9007): 984–5.

abs#23

BIOMARKERS IN RENAL CELL CARCINOMA: THE TRIANGLE OR THE ORCHESTRA?

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Like all cancers, renal cell carcinoma (RCC) is histologically, phenotypically and genomically heterogeneous. Next-generation sequencing has revealed interpatient and intratumoral complexity that is associated with clinical outcome. Biomarkers for RCC outcome and response to therapy are becoming apparent from the perspective of the host (immune and vascular stromal cells) and the tumor. A brief overview and speculation of future developments will be discussed.

abs#24

CIRCULATING BIOMARKERS IN GU ONCOLOGY

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Precision medicine, whereby systemic treatments are matched to molecular aberrations, represents a quantum leap forward in the management of advanced malignancies including metastatic castration-resistant prostate cancer

(mCRPC). Unfortunately, delivering precision medicine to mCRPC patients is hampered by the difficulty in readily obtaining fresh tumor tissue for genomic profiling. As a result, minimally invasive circulating biomarkers (circulating tumor cells, circulating DNA and circulating RNA) are increasingly being recognized as key tools for tumor profiling and the delivery of precision medicine for patients with mCRPC.

abs#25

NOW THE DRUGS DO NOT WORK USING NGIS WHEN DRUGS HAVE FAILED OUR PATIENTS

Niall Corcoran

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Not every patient who participates in a clinical trial will experience a response, and understanding why some patients respond when others do not is fundamental to appropriate patient selection and the design of new therapies. This is particularly true for targeted therapies, where therapeutic efficacy is predicted by the presence (detected or presumed) of known oncogenic drivers. The increasing availability of sequencing platforms coupled with decreasing chemistry costs has permitted various levels of next-generation sequencing assays to be incorporated into the routine design of clinical trials, affording unparalleled insights into mechanisms of drug resistance. To exemplify this approach, data from a phase II neoadjuvant study of total androgen blockade in high-risk clinically localized prostate cancer will be presented. In this study, patients received a combination of degarelix, bicalutamide, abiraterone acetate and prednisolone for 6 months prior to prostatectomy. Despite achieving similar levels of androgen suppression, individual tumor responses varied markedly, from complete tumor ablation to no discernable pathological response. Whole genome sequencing and SNP analysis of paired biopsy and prostatectomy specimens has allowed us to characterize the dynamic changes in the clonal and subclonal architecture of tumors during therapy as well as the associated genomic changes. Parallel transcriptional analysis with RNA-seq has allowed us to rapidly explore the relevance of known resistance mechanisms, while at the same time identify new mechanisms, changing the design of our future studies.

abs#26

IMAGING AND THE ROLE OF ABLATION OF OLIGOMETASTIC PROSTATE CANCER

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The standard treatment options and guidelines for PCa patients diagnosed with metastatic recurrence following primary treatment have remained largely unchanged over the past decade,[1] with androgen deprivation therapy (ADT) being the cornerstone of treatment.[2] Although optimal timing and schedule of ADT is still under debate in this setting,[2] the detrimental effect of ADT on general health and quality of life has resulted in a search for alternatives.[3, 4]

Like in other solid tumors,[5–9] there is increasing evidence that patients diagnosed with a limited number of PCa metastases – so-called "oligometastases" – have a better prognosis as compared to patients with extensive metastatic disease.[10, 11] This oligometastatic state is considered an intermediate state of tumor spread with limited metastatic capacity.[12] The clinical implication of this hypothesis is that localized forms of cancer treatment, that is metastasis-directed therapy (MDT) such as surgery or stereotactic body radiotherapy,[8–12] may be effective in these patients.[12] Moreover, these lesion-directed approaches may have the potential to spare or delay the toxicity associated with the use of systemic therapies. For oligometastases from various primary tumors such as colorectal cancer, sarcomas and renal cell carcinoma, MDT is commonly offered,[5–9, 13–15] even though no randomized trials are available comparing MDT with alternative options.[13–15] The interest in MDT in PCa has certainly increased with the introduction of more accurate imaging modalities,[16, 17] which led to higher detection of oligometastatic PCa recurrence at lower prostate-specific antigen levels.[11, 16] However, many questions remain to be solved before MDT is ready for implementation in clinical routine.[18]

References

1. Palmbos PL, Hussain M. Non-castrate metastatic prostate cancer: have the treatment options changed? *Semin Oncol* 2013; **40**: 337–46.
2. Heidenreich A, Bastian PJ, Bellmunt J *et al*. EAU guidelines on prostate cancer. Part II: treatment of advanced, relapsing, and castration-resistant prostate cancer. *Eur Urol* 2014; **65**: 467–79.
3. Abrahamsson PA. Potential benefits of intermittent androgen suppression therapy in the treatment of prostate cancer: a systematic review of the literature. *Eur Urol* 2010; **57**: 49–59.
4. Taylor LG, Canfield SE, Du XL. Review of major adverse effects of androgen-deprivation therapy in men with prostate cancer. *Cancer* 2009; **115**: 2388–99.
5. Garcia-Yuste M, Cassivi S, Paleru C. The number of pulmonary metastases: influence on practice and outcome. *J Thorac Oncol* 2010; **5**: S161–3.
6. Spelt L, Andersson B, Nilsson J, Andersson R. Prognostic models for outcome following liver resection for colorectal cancer metastases: a systematic review. *Euro J Surg Oncol* 2012; **38**: 16–24.
7. Salah S, Watanabe K, Welter S *et al*. Colorectal cancer pulmonary oligometastases: pooled analysis and construction of a clinical lung metastasectomy prognostic model. *Ann Oncol* 2012; **23**: 2649–55.
8. Ashworth A, Rodrigues G, Boldt G, Palma D. Is there an oligometastatic state in non-small cell lung cancer? A systematic review of the literature. *Lung Cancer* 2013; **82**: 197–203.
9. Tree AC, Khoo VS, Eeles RA *et al*. Stereotactic body radiotherapy for oligometastases. *Lancet Oncol* 2013; **14**: e28–37.
10. Schweizer MT, Zhou XC, Wang H *et al*. Metastasis-free survival is associated with overall survival in men with PSA-recurrent prostate cancer treated with deferred androgen deprivation therapy. *Ann Oncol* 2013; **24**: 2881–6.
11. Ost P, Decaestecker K, Lambert B *et al*. Prognostic factors influencing prostate cancer-specific survival in non-castrate patients with metastatic prostate cancer. *Prostate* 2014; **74**: 297–305.
12. Weichselbaum RR, Hellman S. Oligometastases revisited. *Nat Rev Clin Oncol* 2011; **8**: 378–82.
13. Treasure T, Milosevic M, Fiorentino F, Macbeth F. Pulmonary metastasectomy: what is the practice and where is the evidence for effectiveness? *Thorax* 2014.
14. Garden OJ, Rees M, Poston GJ *et al*. Guidelines for resection of colorectal cancer liver metastases. *Gut* 2006; **55** (suppl 3): III1–8.
15. Kim DY, Karam JA, Wood CG. Role of metastasectomy for metastatic renal cell carcinoma in the era of targeted therapy. *World J Urol* 2014; **32**: 631–42.
16. Jadvar H. Prostate cancer: PET with 18F-FDG, 18F- or 11C-acetate, and 18F- or 11C-choline. *J Nucl Med* 2011; **52**: 81–9.
17. Pasoglou V, Larbi A, Collette L *et al*. One-step TNM staging of high-risk prostate cancer using magnetic resonance imaging (MRI): toward an upfront simplified "all-in-one" imaging approach? *Prostate* 2013.
18. Ost P, Bossi A, Decaestecker K *et al*. Metastasis-directed therapy of regional and distant recurrences after curative treatment of prostate cancer: a systematic review of the literature. *Eur Urol* 2015; **67**: 852–63.

abs#27

OLIGO-METASTATIC DISEASE IN PROSTATE CANCER: IS THERE A CASE FOR RADICAL TREATMENTS?

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Metastatic disease in prostate cancer has been categorized conventionally under a single entity, with palliation using androgen deprivation therapy being the mainstay of treatment, with its known toxicity and side-effects. More recently, a subgroup of patients with low-volume tumor dissemination has been identified, otherwise called "oligometastatic disease," which appears to

have a slower natural history of progression, and can be detected readily with advanced functional imaging technologies. Several treatment options for these patients are emerging, including local ablation using different forms of radiation, energy delivery such as high-intensity focused ultrasound or cryotherapy or radical surgery to the primary tumor. Recent synthesis reviews of the evidence suggest that radical and multimodality treatments are feasible with acceptable toxicity, and may improve outcomes for these patients. Furthermore, preclinical data suggest that treating primary tumors may elicit an immune response and immune-mediated abscopal metastasis regression, particularly observed in the case of radiation, which could delay disease progression. Combination therapies including radical treatment of the primary tumor in the presence of oligo-metastases may therefore offer novel options to these patients, and require further investigation through well-conducted randomized controlled trials – some underway – while in parallel, improving our understanding of the potential immune-mediated response generated by such treatments. These approaches are likely to produce a paradigm shift in our management of what has been perceived, to date, as lethal and irreversible advanced stages of prostate cancer.