GCT-50 Acceptability of using circulating microRNAs for detection of malignant germ cell tumours: initial user consultation exercise

L.A. Fern[1,2], M. Greenwood[3], S. Brand[4], D.P. Stark[5], M.J. Murray[6,7]
[1]Oncology Division, University College London Hospitals NHS Foundation Trust, London, United Kingdom; [2]National Cancer Research Institute Teenage, Young Adult and Germ Cell Research Group, United Kingdom; [3]Department of Medical Oncology, St Bartholomew's Hospital London, London, United Kingdom; [4]It's in the Bag, Floor 3 Offices, Bristol Haematology & Oncology Centre, Horfield Road, Bristol, United Kingdom; [5]Leeds Institute of Molecular Medicine, University of Leeds, Leeds, United Kingdom; [6]Department of Paediatric Haematology and Oncology, Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom; [7]Department of Pathology, University of Cambridge, Cambridge, United Kingdom

Background: MicroRNAs of the miR-371~373 and miR-302/367 clusters are promising biomarkers for blood-based diagnosis and disease-monitoring of malignant germ-cell-tumours (MGCTs)[1–3]. These microRNA biomarkers have far superior sensitivity/specificity compared with current markers AFP and HCG[4]. Consequently, circulating microRNA testing may replace serial CT scans in MGCT follow-up[5]. The acceptability of this approach has not been explored with patients. Here, we addressed patient acceptability through a user consultation exercise.
Methods: Three males (26–59 y) participated in a four-hour in-depth workshop. Age at diagnosis was 23–42 y; two participants had experienced relapse and all participants were currently in follow-up. The workshop comprised an interactive presentation and focus-group discussion, which was digitally recorded and transcribed verbatim for analysis. Qualitative content analysis of transcripts was used to identify key themes/subthemes.
Results: All participants favoured the circulating microRNA test over CT scans for MGCT follow-up. Four themes were identified which favoured the microRNA test, namely:

1. Sensitivity: increased compared with current AFP/HCG markers;
2. Costs: reduced for both health service[6] and patients (parking/time-off-work);
3. Time: reduced compared with CT scan (both duration of test/scan and time for receiving results);
4. Practicalities: ease-of-access to blood testing versus scanning (process/fasting/need for oral contrast/scan anxiety/claustrophobia).

Initial consultation suggests the new circulating microRNA test is acceptable to patients with many potential benefits conferred, versus traditional CT scan follow-up. A second workshop (June 2019) will access views of a larger patient group to augment the current findings.

References

[1] Murray *et al.*, *Am J Clin Path*, 2011, PMID 21173133
[2] Syring *et al.*, *J Urol*, 2015, PMID 25046619
[3] van Agthoven & Looijenga, *Oncotarget*, 2016, PMID 28938535
[4] Dieckmann *et al.*, *Journal Clinical Oncology* 2019, PMID 30875280
[5] Murray & Turnbull, *Nature Reviews Urology*, 2018, PMID 29256490
[6] Charytonowicz *et al.*, *Clinical Genitourinary Cancer*, 2019, PMID 31155478

Retroperitoneal Lymph Node Dissection (RPLND) and New Surgical Approaches

GCT-51 Robotic retroperitoneal lymph node dissection as primary treatment for patients with high-risk germ cell tumours

A. Bagrodia MD[1]
[1]Department of Urology, University of Texas Southwestern Medical Center, Dallas, TX, USA

Background: Surveillance, primary retroperitoneal lymph node dissection (RPLND), and chemotherapy are options for patients with high-risk stage I and IIA nonseminomatous germ cell tumours. Robotic RPLND (R-RPLND), which is included as an option in the American Urological Association Testicular Cancer guidelines, is an emerging alternative to open RPLND (O-RPLND). Relevant data regarding R-RPLND are provided.
Material and methods: Systemic review of primary R-RPLND series was conducted, comprising 100 patients. Only case series and retrospective reviews were identified, all with follow up <2 years. Clinicopathologic data and early outcomes are reported. Comparison to O-RPLND is based on historical data, as no literature directly comparing open and robotic RPLND exists.
Results: Unilateral and bilateral full-template nerve-sparing R-RPLND can be performed via multiple docking approaches. Although follow-up is limited in these series, R-RPLND has demonstrated equivalent oncological outcomes compared to O-RPLND, with similar lymph node yield, recurrence-free survival, and low rates of in-field or extra-template recurrence. Clavien Grade III complication rates are low, ranging from 4 to 8%. Maintenance of antegrade ejaculation was possible in >90% of patients. The advantages of R-RPLND include less opioid requirement, faster convalescence, decreased blood loss, lower transfusion rates, lower rates of ileus, and shorter length-of-stay (LOS) compared to O-RPLND, albeit with potentially longer operative time. R-RPLND may be more cost-effective than O-RPLND, primarily driven by decreased LOS. R-RPLND represents a promising opportunity to minimize morbidity in select patients with early stage germ cell tumour. Long-term efficacy data are lacking.

GCT-52 Robot-Assisted Retroperitoneal Lymph Node Dissection

B. Thomas[1]
[1]Department of Urology, Royal Melbourne Hospital, Melbourne, Australia

Background: Robot-assisted retroperitoneal lymph node dissection is playing an increasing role in the management of germ cell cancer. It aims to decrease surgical morbidity surgery whilst attempting to maintain the oncological outcomes of open surgery. It has been utilised in the primary setting, and increasingly post-chemotherapy, for nonseminomatous germ cell tumour. It is also being utilised in the primary setting for stage 2 seminoma.
Methods: A review of published series of robot-assisted retroperitoneal lymph node dissection was performed and the peri-operative and oncological outcomes were analysed. Comparison was made to relevant open retroperitoneal lymph node dissection series. Further analysis of technique and indications was also performed.
Results: Robot-assisted retroperitoneal lymph node dissection is technically feasible, and the extent of dissection is comparable to an