Irish Living Kidney Donor Demographics and Outcomes from 2000–2017

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Introduction: Living donor kidney transplantation (LDKT) has become the treatment of choice for end-stage renal disease (ESRD) worldwide. We report the national Irish experience over an 18 year period.
Methods: Using the Irish National Kidney Transplant Registry we identified 341 donors, who had donated a kidney for transplantation between 2000 and 2017. We report donor demographics, length of stay (LOS) with associated variables, complications and donor outcomes including estimated glomerular filtration rate (eGFR) at 1, 3 and 5 years post-living donor nephrectomy (LDN).
Results: Median age of donation was 44 years (range 20–72), 52% were female. Siblings and parents comprised the majority of donor groups, at 55% and 15% respectively. Median length of stay (LOS) post-LDN was 5 days. Fifteen percent of patients had a complication; Clavien-Dindo 1 (9.4%), 2 (4.5%) and 3 (0.08%). There is only one death recorded in LDN population to date, at 2 years post donation secondary to a sudden cardiac event. Donor age, BMI, relationship to recipient, gender and time point of donation did not impact on patient's LOS. Follow up with local nephrology services was 72% and 55% at 1 and 5 years post-donation respectively. The incidence of newly diagnosed hypertension post-LDN was 12.5%. The median eGFR fell from 95 mL/min/1.73m^2 pre-LDN to 63 mL/min/1.73m^2 1 year after LDN. The post-LDN eGFR was maintained, with a median eGFR of 63 at 5 years post-LDN.
Conclusion: We report successful outcomes for living kidney donors in Ireland with results comparable to other national series[1]. Our study demonstrates an acceptable reduction in post-LDN eGFR in appropriately selected LDKT patients with preserved eGFR at 5 years post-LDN.

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The battle within minimally invasive kidney surgery: Laparoscopic vs robotic partial nephrectomy

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Introduction: There is a growing body of evidence to support the use of minimally invasive partial nephrectomy (MIPN) for treatment of small renal masses. Recent studies have demonstrated benefits for robotic-assisted partial nephrectomy (RAPN) over laparoscopic partial nephrectomy (LPN) in warm-ischaemia time (WIT) and hospital length of stay (LOS).[1] We reviewed our institutional experience over the last 4 years to assess for differences in tumour characteristics and patient outcomes.
Methods: Electronic records were reviewed to identify all MIPN performed in the Mater Misericordiae Hospital campus on Eccles street in Dublin between January 2015 and March 2019.
Results: A total of 57 LPN and 32 RPN were performed. There was no difference in tumour size between the two groups (LPN = 3.2 cm, RAPN = 3.3 cm, p = 0.2). The majority of cases were for clear cell renal cell carcinoma (57% and 62% in the LPN and RAPN groups respectively), and for early stage disease (65% stage T1 disease in both groups). RAPN was associated with a shorter WIT than LPN (mean = 30.3 vs 36.9 minutes, p = 0.02). There was no significant difference in length of stay (LPN = 4.6, RAPN = 4.2 days, p = 0.58). Major complications (clavien-dindo 3 or higher) were low in both groups, but higher in the LPN group (n = 3, all pseudoaneurysms) than the RPN group (n = 1, urinoma).
Conclusion: Outcomes for MIPN are satisfactory, however, RAPN is associated with a shorter WIT and reduced major postoperative complications.

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Post-MRI primary local anaesthetic freehand transperineal prostate biopsy significantly reduces biopsy rate in comparison to trans-rectal prostate biopsy: Implications for service burden in a secondary-care referral centre in Northern Ireland

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Introduction: In the post-PROMIS study era, multiparametric prostate MRI has been increasingly adopted in triage and targeting of prostatic biopsies. In combination with this, a trans-perineal (TP) biopsy approach is increasingly favoured. There is however high cost associated with some of these techniques. In our centre, we have replaced local anaesthetic (LA) trans-rectal (TRUS) biopsies entirely with post-MRI LA freehand TP biopsies for all prostate cancer diagnostics, with an overall reduced burden to our service.
Patients and Methods: We compared prospectively collected data for all LA freehand TP biopsies performed in six months with all TRUS biopsies performed in an equivalent period prior to introduction of TP biopsies to our centre. TRUS biopsy data was collected retrospectively.
Results: A total of 182 patients underwent TRUS biopsy in a six-month period prior to the introduction of TP biopsy at our centre. In comparison, 137 patients underwent TP biopsy in a six-month period. Gross positive biopsy rate in biopsy naïve patients was 54% in TRUS biopsy and 80% in TP biopsy. Consumables for freehand TP biopsy were £10 cheaper per biopsy than TRUS.
Conclusions: Our results demonstrate a marked reduction in biopsy rate in patients undergoing a pre-biopsy MRI. Furthermore, LA freehand TP biopsy had a higher pickup rate for prostate cancer and a higher incidence of Gleason grade 7 or higher, in comparison to TRUS biopsy. LA freehand TP biopsy is also equivalent in cost to TRUS biopsy. MRI guided freehand TP biopsy however does require more preperation time.

Cystograms are not necessary after bladder cuff excision in nephroureterectomy patients-a systematic review

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Introduction: Nephroureterectomy (NU) is the standard treatment in high risk upper tract urothelial carcinoma. A crucial step in a NU is excision of the bladder cuff. A catheter is placed postoperatively and depending on the surgeon, a cystogram prior to catheter removal may

be performed. The aim of this retrospective study and systematic review was to investigate the necessity of this scan in clinical practice.
Methods: Post NU urinary catheters were removed day 10 after mitomycin instillation and cytograms were not routinely performed in our centre. Patient follow-up was clinical, radiological and cystoscopic. A systematic review (SR) was performed according to PRISMA guidelines to investigate the incidence of urinary leak on cystograms after NU bladder cuff excision and complication rates if one was not performed.
Results: Sixty-seven patients were included from this centre, no clinical, radiological or cystographic evidence of a persistent urinary leak (i.e abscess or urinoma) or fistulae were noted. The SR revealed incidence of urine leak at postoperative day 7 on cystogram in 241 patients from 9 studies was 0.4% (n = 1). Of the cohort that did not perform a cystogram prior to catheter removal (n = 50, 5 studies) the complication rate was zero. Cystograms cost £250 in the UK and $1200 in the USA with resource and time utilization, radiation exposure and possible complications.
Conclusion: It is safe to omit a cystogram prior to removal of urinary catheter after bladder cuff excision in patients undergoing NU.

Dilemma in Diagnostics and Management of Suspected Local Recurrence Following Laparoscopic or Robotic Partial Nephrectomy for Renal Cell Carcinoma: A Single Surgeon Experience and Systematic Review

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Introduction: Local recurrence (LR) after partial nephrectomy (PN) for renal cancer (RC) is reported 1–10%.[1,2,3] Little evidence-based guidance exists to address diagnostic work-up, management and outcomes. Furthermore, there is little data on concordance between radiological recurrence and final histology. We report our experience with suspected LR following laparoscopic and robotic PN (LRPN) and present an update of review of the literature.
Methods: A retrospective review was undertaken of PNs performed 2013–2018 for RC by a single surgeon, to ascertain incidence and outcomes of radiologically-reported LR. We then performed a systematic review of MEDLINE, SCOPUS and EMBASE databases, using search terms 'Local Recurrence" and 'Partial Nephrectomy."
Results: Of 150 PN, 130 were LRPN. Radiological suspicion of LR on surveillance imaging was reported in 3 patients. All proceeded to minimally-invasive radical nephrectomy following multi-disciplinary discussion. In 3/3 (100%) the repeat histology was benign; all remain disease-free at mean 48 month follow-up. Literature search strategy produced 969 returns, of which all original articles addressing management of suspected LR were included. Management strategies included radical nephrectomy, PN, ablative therapy and active surveillance. Poor reporting of use of biopsy in diagnostics and location of suspected recurrence were noted. Reported risk factors for true LR include positive surgical margins, higher nephrometry score, multi-focality and pathological stage.
Conclusions: The management of suspected LR post LRPN is complex. Patients should be counselled as to the possibility of benign resection. Greater reporting and audit of suspected LR are essential to determine optimal diagnostic and management strategies.

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How to manage patients given a low PIRADSv2 score - outcomes from an Irish tertiary referral centre

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Introduction: The use of multi-parametric MRI plays a key role in the diagnosis and treatment algorithm for patients with suspected prostate cancer. This study analyzed patients given a low risk score via mp-MRI PIRADSv2 score, in order to highlight the key risk factors that may indicate the need for subsequent prostate biopsy. Furthermore the study looked at the use of PSA density as a risk-stratifying tool to identify patients that may require a prostate biopsy.
Methods: All patients given a mp-MRI PIRADSv2 score of 1 or 2 were reviewed over a 2-year period in a single tertiary referral centre. The parameters recorded were PSA at presentation, PSA at time of MRI, prostate volume and histology results.
Results: 220 patient results were reviewed following mp-MRI (PIRADSv2 score of 1 or 2). Mean patient age was 64.9 years. The mean PSA was 8.2 ng.
63 patients went on to have a prostate biopsy. 157 patients continued on PSA surveillance.
49% of the biopsy group had a rising PSA value vs. 34% in the non-biopsy group. 40% of the biopsy group had undergone a previous biopsy vs. 60% in the non-biopsy group. Finally 51% of the biopsy group had a PSA density >0.15 ng/ml/ml vs. 28% in the non-biopsy group (P = 0.01).
Conclusion: The threshold of PSA density of 0.15 ng/ml/ml has been used in centers across the world in combination with PIRADS score ≤ 3 to guide physicians as to who can avoid biopsy[1]. When faced with a patient given a PIRADS score of 2, this study has shown that biopsy of the lesion could potentially be avoided if a patient has a PSA density <0.15 ng/ml/ml, a previous negative TRUS biopsy or static PSA value.

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Outcomes Following Second Kidney Transplant: Results from the Irish Kidney Transplant Programme

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Introduction: For patients who have undergone primary kidney transplant (PKT) and returned to dialysis, second kidney transplantation (SKT) offers improved quality of life and survival advantages. However, SKT is associated with greater immunologic and non-immunologic risk factors. Despite these challenges, outcomes