Conclusion: We report the successful experience of the only unit in Kuwait performing SNM implantation. Our patients report overwhelming satisfactory results both objectively and subjectively.

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[34] Robot-assisted partial nephrectomy: Initial experience from a single centre

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Objective: To present Kuwait’s initial experience and outcomes of robot-assisted partial nephrectomy (RAPN) using the da Vinci® Si robot (Intuitive Surgical Inc., Sunnyvale, CA, USA), as advances in urology have focused on minimising the invasiveness of surgical procedures without compromising oncological outcomes.

Methods: After Institutional Review Board approval, data were recorded for all patients who underwent RAPN at our centre. Complications were graded using the Clavien–Dindo system and defining major complications as Clavien–Dindo Grade ≥ III.

Results: Between February 2014 and June 2018, a single surgeon’s robotic experience at Sabah Alahmad Urology Center (SAUC) included a total of 136 cases (116 cases as the main console surgeon and 20 cases with an invited robotic proctor). Of these, 25 cases (18%) were RAPN (21 cases as the main console surgeon and four cases with an invited robotic proctor). The mean age of the RAPN patients was 51 years. The mean size of the renal masses was 3 cm. The mean renal nephrometry score was 7.45. The most complex tumour had a score of 9 a + h. Eight tumours were posteriorly located. All patients underwent either warm or zero ischaemia PN. There was one major complication (Clavien–Dindo Grade IIIa), where a patient developed fever and perinephric urinoma requiring percutaneous drainage under local anaesthesia. The median hospital stay was 2 days. The mean estimated blood loss was 318 mL. Pathology included 22 malignant renal cell carcinomas (RCCs) with negative surgical margins and three benign tumours. One patient had two tumours resected from the same kidney during the same procedure and showed papillary type II and clear cell RCC. No tumour recurrence occurred over a mean follow-up of 15 months.

Conclusion: Our centre’s initial RAPN experience shows good patient and operative outcomes. A larger number of cases are required to allow a definite conclusion. Dedication of all members of the robotic team is crucial to ensure good patient outcomes.

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[35] The impact of the ‘optimised surgical journey’ on robot-assisted radical prostatectomy patients: A prospective non-randomised longitudinal cohort study

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Objective: To examine the impact of a standardised postoperative algorithm on robot-assisted radical prostatectomies (RARPs) performed at our centre in Kuwait. Prostate cancer is the most common cancer in Kuwaiti males since 2011 and after acquiring the Da Vinci® Si robot (Intuitive Surgical Inc., Sunnyvale, CA, USA) in 2013, a RARP programme was established.

Methods: We collected data prospectively on all RARP cases performed since February 2014. We used the Clavien–Dindo system to grade complications, defining major complications as Clavien–Dindo Grade ≥ III. We examined recovery variables of all patients. We adopted a standardised postoperative algorithm called the ‘optimised surgical journey’ (OSJ) for managing RARP patients.

Results: Between February 2014 and June 2018, a single surgeon’s robotic experience at Sabah Alahmad Urology Center (SAUC) included a total of 136 cases (116 cases done as the main console surgeon and 20 cases done with an invited robotic proctor). Of these, 53 cases (39%) were RARP (47 cases as the main console surgeon and six cases with an invited robotic proctor). The mean patient age was 62 years. The mean prostate volume was 50 mL. The mean estimated blood loss was 100 mL. Five patients had positive surgical margins (9%). The initial 12 RARPs were managed with non-standardised postoperative orders; the mean hospital stay was 4.83 days. Since April 2015, 41 patients underwent the OSJ protocol, reducing hospital stay by...
2.57 days ($P < 0.001$). We report only one major complication (Clavien–Dindo Grade IIIb), where the patient had a prolonged leak requiring prolonged catheterisation and cystoscopy with cystogram under general anaesthesia, but no significant association with the OSJ.

**Conclusion:** Standardised postoperative pathways improve recovery of patients undergoing major procedures like RARP. The OSJ decreased hospital stay without compromising surgical or oncological outcomes. Limitations are the small number of patients, lack of randomisation and possible impact of the learning curve on the initial cases.

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[36] Dynamic contrast-enhanced ultrasonography for better percutaneous nephrolithotomy puncture

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**Objective:** To assess the efficiency of dynamic contrast-enhanced ultrasonography (DCE-US) for percutaneous nephrolithotomy (PCNL) puncture, as in recent years US contrast agents (microbubbles) have been used safely for cardiovascular and liver diseases diagnosis, and also to identify complex renal cysts, thus could be used to better delineate the pelvicocalyceal system during PCNL puncture and reduce the radiation exposure for medical staff and patients.

**Methods:** A 40-year-old man with a history of thalassaemia trait, renal cysts, and bilateral renal staghorn stones was scheduled for right PCNL. A 6-F ureteric catheter was placed at the beginning of the procedure. Using a curvilinear US probe (frequency 4 Hz, mechanical index 0.4) and 18-G EchoTip® needle, renal access was established for the patient in prone position under general anaesthesia whilst slowly injecting three doses of 1.5 mL US contrast agent (Sonovue; prepared by mixing 5 mL sodium chloride 0.9% with 25 mg lyophilised powder) each followed by 5 mL physiological saline flush through the ureteric catheter to delineate the collecting system. Afterwards, pneumatic and ultrasonic lithotripsies were used.

**Results:** The PCNL procedure was successful. The collecting system was successfully accessed through a lower calyx puncture. No blood transfusion was needed during or after the procedure (haemoglobin op < 1 g/dL). The puncture time was 1.2 min, operating time 141 min, and fluoroscopy time was 3.1 min. There were no major complications or adverse effects. The patient was discharged 48 h after the procedure.

**Conclusion:** DCE-US is a safe innovative technique that might be a good method to improve PCNL puncture, reduce radiation, and possibly reduce the risk of bleeding. Further randomised studies are needed to evaluate its benefits.

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[37] Assessment of lower calyceal single-access percutaneous nephrolithotomy (PCNL) for staghorn stones: A single surgeon and a single centre experience at King Abdulaziz Medical City, Riyadh

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**Objective:** To establish whether lower calyceal access percutaneous nephrolithotomy (PCNL) is the safest access and has the same efficacy as upper calyceal access for staghorn stones, as PCNL is still the mainstay treatment of choice for most complex renal stones, but there is still controversy surrounding the stone-free rate (SFR) in comparison to upper and middle calyceal accesses.

**Methods:** This is a single surgeon and single tertiary centre retrospective study. All lower calyceal access PCNLs performed from May 2012 to August 2017 were included. To assess the SFR a postoperative computed tomography scan was reviewed. Postoperative complications were reported using the modified Clavien–Dindo Grading System. Descriptive analysis of the data was done.

**Results:** In all, 67 patients were included in our study. The mean hospital stay was 7.9 days and the mean operative time was 138.52 min. The mean staghorn stone burden was 476.34 mm². Overall, 80.59% (54) of patients had complete stone resolution after the first session and 8.95% (six) of patients required a second session to achieve complete resolution of staghorn stone. Only three patients (4.47%) had complications, classified as Clavien–Dindo Grade II with the remainder classified as Grade I, two patients needed postoperative blood transfusion, one had a renal pelvis perforation, and none had sepsis or a pulmonary embolism.

**Conclusion:** The use of lower calyceal single-access PCNL is safe for treating complex renal stones and achieves stone resolution in one or two sessions in most cases (89.5%), a result that is almost equivalent to the rate achieved by upper calyceal access PCNL in the literature (up to 90%).

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