p < 0.001) have independent influence on monthly ESWL number, while the rest climate factors are insignificant.

**Conclusion:** Temperature and atmospheric pressure are associated with monthly ESWL rate. Ambient temperature is the most important climate factor affecting urolithiasis prevalence in northern Taiwan.

**NDP043:**

**OUR EXPERIENCE OF TISSUE GLUE INJECTION IN TUBELESS PERCUTANEOUS NEPHROLITHOTOMY**

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**Purpose:** To share our experience with the use of Tissucol Duo or Floseal during tubeless percutaneous nephrolithotomy, we evaluated its clinical benefit with respect to length of hospital stay, analgesic usage and hemoglobin level change.

**Materials and Methods:** We retrospectively reviewed of 500 patients who underwent percutaneous nephrolithotomy in our hospital. In 100 consecutive patients, percutaneous tracts were injected with 5 mL of Tissucol Duo Quick after removal of Ampulla sheath. We compared the days of hospitalization, age, stone burden, operation time, and complications between 100 patients who received tubeless percutaneous nephrolithotomy with fibrin glue use (experimental group) and 400 patients who received percutaneous nephrolithotomy without use of tissue glue (control group).

**Results:** The average days of hospital stay was 0.92 day (P = 0.02) shorter in the experimental group than in the control group. Age distribution between two groups was not statistically different. The decreased level of Hematocrit was 20% lessen in the experimental than in the control groups. The total usage of analgesic agent was less in the experimental group, but the difference was not statistically significant between two groups. No statistical difference was noted between the operative times, stone burden, and complication for both groups. Postoperative blood transfusion, fever and wound infection were found in 10 patients in the experimental group and 50 patients in the control group. Three patients expired due to hemorrhagic shock and sepsis.

**Conclusion:** The use of fibrin glue is safe and clinical benefit in the length of hospitalization, hemoglobin level maintenance in percutaneous nephrolithotomy procedures. Additional prospective randomized studies are needed for more clinical benefit evaluation.

**NDP044:**

**CHANGE OF TREATMENT IN UPPER URINARY TRACT STONES IN OUR HOSPITAL**

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**Purpose:** To evaluate the change of treatment strategy regarding upper urinary tract stones in our hospital in last 5 years

**Materials and Methods:** We collected data from our hospital database on patients receiving extracorporeal shock wave lithotripsy, endoscopic surgery and open surgery. We analyzed how the incidence of these treatments changed over last 5 years

**Results:** From January 2009 till December 2013, 10865 patients with upper urinary tract stones received invasive treatment. The amount of patients receiving ESWL decreased annually while the numbers of endoscopic surgery increased gradually. We can see in recent years there has been a clear increase in the endoscopic surgery with decreasing number in ESWL.

**Conclusion:** In recent years, there has been a clear reduction in the number of ESWL & increase in the number of endoscopic surgery in our hospital. The reason of such trends may be due to the change of healthcare policy & advanced instruments. The retreatment of endoscopic surgery was lower than ESWL group which could decrease the overall treatment cost.

**Laparoscopy**

**NDP045:**

**PRELIMINARY RESULTS OF A NOVEL EXTRAPERITONEAL LESS NEPHROURETERECTOMY FOR UROTHELIAL CARCINOMA OF UPPER URINARY TRACT**

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**Purpose:** Urotheial carcinoma of upper urinary tract (UTUC) is a rare disease. Nephroureterectomy and excision of bladder cuff is the standard of surgical treatment. The approaches for this surgery have evolved enormously in the past few decades. Laparoendoscopic single site (LESS) surgery is one of the surgical options with the advantages of fast recovery and good cosmesis. We reported our preliminary results of a completely retroperitoneal LESS approach via a Gibson’s incision, which is a novel way of access in performing this operation.

**Materials and Methods:** From September 2013 to September 2014, 10 patients accepted LESS retroperitoneal nephroureterectomy with excision of bladder cuff through a 5 Gibson’s incision by a single surgeon. GEL-POINT (Applied medical) was adopted as the access platform. The mean age of the patients was 76.3 years (range 56-87). There were 4 male and 6 female.

**Results:** All the procedures were smoothly carried out without sequela. The mean total operation duration was 330 minutes (range 230-430). The mean duration for nephrectomy was 163.8 (range 120-230). The mean blood loss of nephrectomy was 145 mL (range 50-300). There was no conversion to open or conventional laparoscopic approach. Transperitoneal LESS approach was performed in one patient due to obvious violation of the peritoneum. There were no post-operative events. The cosmesis was satisfactory.

**Conclusion:** The preliminary results of our novel LESS retroperitoneal approach for nephroureterectomy with excision of bladder cuff were promising. Such approach may be one of the choices for the surgical treatment of UTUC.

**NDP046:**

**COMPARISON OF LAPAROENDOSCOPIC SINGLE-SITE (LESS) AND CONVENTIONAL EXTRA-PERITONEAL (TEP) INGUINAL HERNIA REPAIR**

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**Purpose:** The success of laparoscopic surgery is due to the less surgical trauma, including less operative pain, complications and better cosmetics (less wound). However, conventional laparoscopic hernia repair usually requires three working port and each increasing port is associated with possible increasing morbidity and pain related to ports. This has led to the development of laparoendoscopic single-site hernia repair which can further reduce the port-related morbidities and improve cosmetic outcomes.

**Materials and Methods:** We performed a retrospective analysis of 78 patients (LESS-TEP, 36; conventional laparoscopic-TEP, 42) scheduled to undergo elective inguinal hernia from January 2013 to December 2014 by single surgeon at Chi Mei Medical Center. Data regarding patient demographics, type of hernia, operative time, complications, postoperative hospital stay, and recurrence were analyzed and compared.

**Results:** There were no significant differences in the patient demographics. All 36 patients in LESS-TEP group were bilateral hernia, 40 patients in conventional laparoscopic-TEP group were bilateral hernia and 2 were unilateral hernia. There were no significant differences in the length of operation time (LESS-TEP, 93.88 min vs. conventional laparoscopic-TEP, 82.02 min). Mean hospital stay were 2.77 days in LESS-TEP group and 3.16
days in conventional laparoscopic-TEP group. Additional pain control seem more often in conventional laparoscopic-TEP group (32/42, 76.2% vs 20/36, 55.5%). No recurrence reported in both group during a mean follow-up period of 11.14 months in LESS-TEP group and 16.85 months in conventional laparoscopic-TEP group.

Conclusion: In our experience, LESS-TEP hernia repair seems to be safe and feasible procedure. There were no significant differences in the post-operative hospital stay, operative time and complications rates compared with conventional laparoscopic TEP hernia repair.

NDP047: ROBOTIC-ASSISTED LAPAROSCOPIC PARTIAL NEPHRECTOMY FOR SMALL RENAL CELL CARCINOMA: CHI MEI MEDICAL CENTER EXPERIENCE

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Purpose: Partial nephrectomy is an effective surgical treatment for small renal masses, and the benefit of renal function preservation. Laparoscopic partial nephrectomy is still one of the more challenging procedures in urology. Minimizing warm ischemia time (WIT) and bleeding requires efficient intracorporeal suturing. Robotic system offers the surgeon to perform complete reconstructive procedures with more precision, dexterity and rapidity. We present the experience and outcome in robotic-assisted partial nephrectomy (RALPN) for small renal cell carcinoma in our institution.

Materials and Methods: From May 2012 to November 2014, 22 patients underwent RALPN for small renal cell carcinoma in Chi Mei Medical Center, operated by single surgeon with retroperitoneal approach. Patient demographics, tumor characteristics, intraoperative, and postoperative data including tumor size, warm ischemia time, and estimated blood loss (EBL) were analyzed.

Results: The average age of the patients (14 male, 8 female) was 53.5 (range 36-75) years. Average BMI was 25.41 (range 17.4-33.9) kg/m². A total of 9 patients had tumor on right and 13 patients had tumor on the left. Location wise the distribution was as follows: Upper pole (n = 8), midpole (n = 3), lower pole (n = 10) and 1 had hilar mass. Average tumor size was 3.14 cm (range 1.7-6.7 cm). Average operative time was 253.95 (range 155-430) min; Average console time was 126.95 (range 78-218) min. Mean warm ischemia time was 20min 04 sec (range 10min40sec-32min36sec). Mean blood loss was 265.9 (range 6-1000) ml, 4 patients need blood transfusion. Pathologic examination revealed clear cell type in 17 patients, papillary type in 2 patients and Chromophobe type in 3 patients. All margins were negative.

Conclusion: Robotic-assisted laparoscopic partial nephrectomy is a feasible and safe approach to small renal masses. Robotic partial nephrectomy had shorter WIT compared to the previous reported laparoscopic partial nephrectomy data.

NDP048: EXTRAPERITONEAL ROBOT-ASSISTED RADICAL PROSTATECTOMY TAIPEI CITY HOSPITAL EXPERIENCE

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Purpose: We described and assessed our experience of extraperitoneal laparoscopic radical prostatectomy performed using the da Vinci (Intuitive Surgical, Mountain View, California) robotic system.

Materials and Methods: From 2014 to 2015, 24 consecutive patients with clinically localized prostate cancer underwent extraperitoneal, robotic assisted laparoscopic radical prostatectomy. After development of the extraperitoneal space with conventional laparoscopic instrument, the surgeon performed robot assisted extraperitoneal laparoscopic radical prostatectomy from the console. The assistant used conventional laparoscopic instruments only with suction-irrigation and laparoscopic allis to facilitate prostatectomy. Perioperative data and pathological results were recorded.

Results: No difficulties were noted when developing the extraperitoneal space. We use balloon dilator to create extraperitoneal space ; confirm and insert trocars with conventional laparoscope. The trocar site is the same with conventional laparoscopic setup. Mean operative time was 174 minutes. Mean catheterization time was 11 days. No major postoperative complications or open conversions were observed.

Conclusion: The extraperitoneal approach was feasible with the da Vinci robotic system. The procedure offers the advantages of improved dexterity and visualization of the robot, while avoiding the abdominal cavity and potential associated morbidity. Da Vinci robotic extraperitoneal approach for radical prostatectomy simulates the standard open retropubic technique seem will be likely to gain popularity.

NDP049: THE FACTORS INFLUENCE THE PENTAFECTA OUTCOMES POST LAPAROSCOPIC RADICAL PROSTATECTOMY IN ASIA

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Purpose: In men with localized prostate cancer, radical prostatectomy (RP) was the choice of treatment. The outcomes post RP are usually use the triffecta which included cancer free and full functional recovery but this does not cover all aspects of surgery. Pentafecta is a more comprehensive methodology to report outcomes after radical prostatectomy, including complications and surgical margin status with the three major outcomes classically reported. The purpose of this study is to report our experience with laparoscopic radical prostatectomy (LRP) by applying the concept of pentafecta.

Materials and Methods: From May 2008 through May 2014, details of 180 consecutive patients who underwent laparoscopic radical prostatectomy performed by a single surgeon were retrospectively analyzed. Among these patients, 54 patients reported good sexual function before surgery underwent unilateral or bilateral nerve sparing and had at least 1 year of follow-up were included in the study group.

Results: The average age was 66.3 ± 8.2 years (49–79) and the total PSA was 13.83 ± 8.10 ng/dl (2.094- 40 ng/dl). According to D’Amico classification, 10 persons (18.5 %) were low, 25 persons (46.3%) were median, and 19 persons (35.2%) were high. The operative time was 183.8 ± 81.6 min (65-52.5), and the complication rate was 18.5 % in Clavien I-II (10) and 1.9 % in Clavien III (1 laceration of urethrovaginal anastomosis). The positive surgical margins was 20.4% (11/54); the biochemistry recurrence was 20.4 % (10) 49 12–72 months; the continence rate was 96.3 % and the potency rate was 66.7 %. The triffecta rate and pentafecta rate were 59.3 % and 40.7 % in the follow-up and became 73.5% and 58.8 % after excluding the advanced pathology stage (pT >2) and old age (age > 70 year-old) patient.

Conclusion: The pentafecta is an ideal condition for comprehensive approach for reporting prostate surgery outcomes after radical prostatectomy in early stage prostate cancer. Because older age and advanced stage of patients in Asia, it is not feasible to predict the outcomes of prostate cancer treated with laparoscopic radical prostatectomy. This approach may be beneficial and may be used when counseling for those younger patients with clinically localized prostate cancer.

NDP050: REFINED PLUCK TECHNIQUE BY URETERAL OCCLUSION AND TRANSURETHRAL CYSTORRHAPHY IN NEPHROURETERECTOMY WITH BLADDER CUFF EXCISION FOR UPPER TRACT UROTHELIAL CARCINOMA

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Purpose: To evaluated the feasibility of refined pluck technique by ureteral occlusion and transurethral cystorrhaphy in nephroureterectomy with bladder cuff excision for upper tract urothelial carcinoma (UTUC)