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Pilot trial of telemedicine in urology: video vs. telephone consultations

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Introduction: In the past year, in-person clinical activities have been drastically restricted due to the COVID-19 pandemic, driving the already growing interest in the use of telemedicine in the urban setting to reduce unnecessary commuting. Therefore, there has been a rapid shift to telephone and video consultations in outpatient practice. We sought to conduct a pilot trial to establish the feasibility and acceptability of video consultations as an alternative to telephone consultations in urology patients to inform the design of a future randomized controlled trial.
Methods: We conducted a single-center, prospective, non-randomized pilot trial comparing telephone consultations (TC) vs. video consultations (VC) for urology outpatient visits. Two patient questionnaires were used to collect demographic information, as well as data about acceptability, feasibility, satisfaction, cost, and issues with telemedicine. Questions were identical for both VC and TC except for certain questions inquiring about issues specific to each technology.
Results: Forty-eight TC and 66 VC urology patients were included in this study. Patients believed that telemedicine visits did not significantly hinder their ability to communicate with their urologists and that these visits would be associated with cost savings. There was 1/48 (2.1%) failed TC and 16/66 (24.2%) failed VC. VC failures were concentrated at the beginning of the trial, prior to giving feedback to the VC platform creators, with only one failure occurring thereafter. When comparing TC to VC, differences between the two patient groups were small but tended to be in favor of VC. Patient satisfaction was greater with VC compared to TC. Both modalities were associated with many cost benefits for patients
Conclusions: Despite more technical issues with VC, this modality is feasible and acceptable to patients, likely due to improved shared decision-making with VC. Future considerations for trials comparing VC and TC should include adequate Wi-Fi infrastructure and choice of platform. For the VC, continuous knowledge transfer between investigators and platform engineers plays an important role in limiting failed encounters.

Patient's and physician's respective satisfaction after telemedicine urology consultations: A sub-analysis of 315 cases from the prospective Quebec City telemedicine study

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Introduction: The COVID-19 pandemic has accelerated the development of telemedicine due to confinement measures. Despite post-consultation satisfaction rates from physicians' and patients' perspectives reported in several medical specialties, prospective data analyzing patients' and doctors' satisfaction discrepancies were not studied in-depth, especially in urology. Herein, we report a sub-analysis on patient's and urologist's respective experiences and satisfaction after telemedicine consultation during the Quebec City telemedicine prospective study.
Methods: During the first four weeks of the first regional confinement, 18 urologists practicing in the region of Quebec City determined if each telemedicine consultation (1679 consultations collected) was either complete, suboptimal, or incomplete. From July 2020 to October 2020, a randomly determined subgroup of patients was contacted to enquire about their perspectives on their telemedicine consultation experience. We used a French adaptation of a questionnaire inspired by the Patient Experiences Questionnaire for Out-of-Hours Care (PEQ-OHC).
Results: Of 356 patients contacted, 315 accepted to complete the questionnaire. Of this group, 104 urological consultations were for non-oncological, 121 for oncological, 41 for cancer suspicion, and 49 for pediatric indications. The mean patient satisfaction score after telemedicine consultation was 8.8/10 (median 9/10) and 86.3% of patients rated the quality of the consultation as either excellent (54.6%) or very good (31.7%). Cancer suspicion and pediatric consultations had the lowest score. Interestingly, overall, 46.7% of patients would have preferred an in-person visit if their urological consultation would have been outside of the pandemic situation. We found a significant association between urologists' suboptimal impression of the consultation and patients' preference to see their doctor in person, but not with the overall satisfaction rate (p=0.6).
Conclusions: Even though high satisfaction rates from patients about telemedicine were found, it is noteworthy that half the patients would have preferred an in-person visit if it would have been possible. After the pandemic, it will be important to incorporate telemedicine only as an alternative for patients' visits, keeping in-person visits available and offered to our patients.

First Canadian experience on propiverine use in children with overactive bladder

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Introduction: Antimuscarinics are the cornerstone of the pharmacological treatment of overactive bladder (OAB), but side effects often limit their long-term use. Propiverine, a molecule with a mixed mechanism of action, was approved in Canada in 2017 as a therapy for OAB in adults and children. However, there is scarce data on its efficacy and tolerability in the pediatric population. Our primary objective was to assess the efficacy and tolerability of propiverine as a first- or a second-line pharmacological treatment of OAB in children. Our secondary objective was to compare propiverine to other molecules already investigated in historical cohorts.
Methods: We conducted a retrospective analysis of a prospectively maintained database and reviewed 57 patients who received a prescription of propiverine between September 2017 and July 2021. Patients had to attend at least one followup visit to be included in the analysis. Efficacy and tolerability were assessed through voiding diaries, postvoid residuals (PVR), and by questioning patients and families on change in number of incontinence episodes (day and night), in urgency episodes (grade 1 to 3), and on reported adverse events. Categorical variables are reported as counts and percentages, and descriptive statistics (mean and standard deviation or medians and quartiles) are reported for continuous variables. Paired tests were used to assess the evolution of mean bladder capacity

and expected bladder capacity (%EBC) at different points of followup, and linear regression models with the GEE method were used to estimate their average monthly variation.
Results: A total of 57 patients (36 boys) initiated a treatment with propiverine at a mean age of 9.6±3.2 years. Patients were on propiverine for an average of 16±10 months. Mean bladder capacity increased from 121 ml to 216 ml, and %EBC (adjusted for age) increased from 38% to 59%. Average increased rate of %EBC was 0.5% per month (p<0.001). Of 57 patients, 12 patients were able to stop the medication without symptoms recurrence and 28 patients are still on medication. Seven interrupted their treatment due to bothersome side effects, six because of lack of efficacy, and four because of insurance coverage or other unspecified reason. Compared to other molecules regularly used in our service, propiverine offers comparable efficacy and tolerability. Our study had limitations, including the absence of a placebo group and its retrospective design.
Conclusions: Propiverine appears to be an efficient and safe option for the treatment of OAB in children and is approved for use in children.

Étude du microbiote intestinal dans le cancer de la prostate : du développement à la réponse aux traitements

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Introduction : Les microbes sont d'importants contributeurs aux maladies humaines. Des études récentes ont identifié des bactéries vivantes, et des molécules qui en découlent, dans plusieurs cancers. Cependant, l'implication des bactéries dans le développement du cancer de la prostate (CaP) et la réponse aux traitements reste à déterminer. Ce projet visait à 1) étudier le lien entre le microbiote intestinal et le développement du CaP ; 2) déterminer l'effet modulateur d'une supplémentation d'acides gras polyinsaturés (PUFA) sur la composition bactérienne du microbiote et sur la croissance tumorale ; et 3) étudier l'impact du microbiote intestinal sur l'issue de la prostatectomie radicale chez des patients atteints de CaP.
Méthodes : En utilisant le séquençage du gène de 16SrRNA d'échantillons de selles de 69 patients atteints du CaP, nous avons observé une réduction de la diversité du microbiote intestinal associée avec une augmentation de l'agressivité tumorale.
Résultats : Dans trois différents modèles murins syngéniques de CaP, les analyses du microbiote murin de manière longitudinale ont montré que la croissance tumorale était suffisante pour moduler la composition du microbiote intestinal. Une greffe de microbiote fécal humain dans un modèle murin de CaP a montré que le transfert de microbiote fécal provenant de patients atteints de CaP était suffisant pour moduler la croissance ectopique du CaP chez la souris, confirmant ainsi que les bactéries intestinales sont impliquées de manière causale dans le développement du CaP. Nous avons également étudié la connexion intestin-CaP suite à une supplémentation avec des PUFA purifiés chez des patients et des modèles murins, et démontré que la supplémentation avec ces prébiotiques était capable de moduler la composition du microbiote intestinal. La supplémentation en PUFA omega-3 a principalement ciblé le niveau des bactéries appartenant à la famille des Ruminococcaceae, associée à une réduction de l'agressivité tumorale chez les patients, et à une diminution de la croissance tumorale chez la souris. L'analyse des acides gras à courtes chaines (SCFA) dans les selles de patients supplémentés avec des PUFA omega-3 suggère un rôle du butyrate sur la croissance tumorale. En parallèle, des hommes traités par prostatectomie radicale ont été recrutés pour donner plusieurs échantillons de selles avant et après leur chirurgie. Les résultats indiquent que l'indice de dissimilarité Yue et Clayton était plus élevé dans les échantillons fécaux récoltés après l'intervention chirurgicale comparativement aux échantillons récoltés avant, suggérant que le microbiome a été modifié suite à la prostatectomie. Finalement, nous avons observé un enrichissement d'Akkermansia muciniphila chez les patients dont la prostatectomie radicale a réussi (sans échec à la PSA) et chez les patients n'ayant pas développé de récurrence biochimique jusqu'à 2-5 ans de suivi.
Conclusions : Dans l'ensemble, nos résultats démontrent que la composition du microbiote intestinal est étroitement liée au développement et à la progression du CaP, et que certaines de ses composantes sont modulables par des prébiotiques et favorables à ralentir la maladie. Finalement, malgré une importante modulation du microbiome intestinal des patients suite à leur prostatectomie radicale, la présence d'Akkermansia muciniphila semble être positivement associée à la réussite de l'intervention chirurgicale à visée curative.

WATER vs. WATER II: Three-year comparison of Aquablation therapy for benign prostatic hyperplasia

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Introduction: Surgical options are limited when treating large (>80 cc) prostates for lower urinary tract symptoms (LUTS) due to benign prostatic hyperplasia (BPH). Open simple prostatectomy remains the most common procedure performed for large prostates. As such, there is a need for novel surgical approaches with shorter learning curves and effective treatment. Aquablation (AquaBeam System, PROCEPT BioRobotics, Inc., U.S.), an ultrasound-guided, robotically executed waterjet ablative procedure, could fill this gap. This analysis compares the outcomes of Aquablation in 30–80 cc prostates with the outcomes in 80–150 cc prostates.
Methods: WATER (NCT02505919) is a prospective, double-blind, multicenter, international clinical trial comparing the safety and efficacy of Aquablation and transurethral resection of the prostate (TURP) in the treatment of LUTS/BPH in men 45–80 years old with a prostate between 30 cc and 80 cc. WATER II (NCT03123250) is a prospective, multicenter, single-arm, international clinical trial of Aquablation in men with a prostate between 80 cc and 150 cc. We compare 36-month outcomes among 116 WATER and 101 WATER II study subjects undergoing Aquablation. Student's t-test or Wilcoxon tests were used for continuous variables and Fisher's test for binary variables.
Results: International Prostate Symptom Score (IPSS) scores improved from 22.9 and 23.2 at baseline in WATER and WATER II, respectively, to 8.0 and 6.4 at 36 months, with 36-month reductions of 14.4 and 16.7 points, respectively (p=0.07 for difference in change scores). At baseline, urinary flow rates (Qmax) were 9.4 and 8.7 cc/sec in WATER and WATER II, improving to 20.6 and 19.0 cc/sec, respectively (p=0.70 for difference in change scores) at 36 months. Improvements in both IPSS and Qmax were immediate and sustained throughout followup.
Conclusions: Aquablation clinically normalizes outcomes between patients with a 30–80 cc prostate and patients with an 80–150cc prostate treated for LUTS/BPH. It is effective in patients with large prostate glands (>80 cc) with acceptable complications out to three years.

Day-case holmium laser enucleation of the prostate: One-year preliminary results

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Introduction: Holmium laser enucleation of the prostate (HOLEP) is, for most, considered the surgical gold standard treatment for benign prostate hypertrophy (BPH). This minimally invasive procedure applies to all sizes of prostate, and its safety and durability are well-proven. However, few authors have documented the feasibility of this surgery in a day-case setting and whether it could become a standard of care. Our objective was to determine the ambulatory success rate and the early complication rate of HOLEP surgeries.
Methods: We performed a prospective, descriptive study on all patients presenting for day-case HOLEP by a single surgeon at our institution from

June 2020 to June 2021. Patients were ineligible if they presented any of the following: were unaccompanied the night of the operation, lived greater than an hour drive away from any hospital, or had medical comorbidities requiring hospitalization. Day-case surgery success was defined as no hospital admission within 48 hours of the procedure. All adverse events within one month of the prostate enucleation were also identified.
Results: A total of 23 patients were eligible for this study (mean age 71.2±6.2). The ambulatory success rate was 83% (19/23). Three patients were hospitalized for 24 hours and one for 72 hours, all because of hematuria. There were no re-admissions within 48 hours of the procedure. There was a total of nine adverse events in the month following prostate enucleation: five hematuria (Clavien-Dindo grade 1), two urinary retentions due to hypoactive bladder (Clavien-Dindo grade 1), one urinary tract infection (Clavien-Dindo grade 2), and one residual adenoma requiring re-morcellation under general anesthesia (Clavien-Dindo grade 3b).
Conclusions: Preliminary results of this day-case HOLEP surgery feasibility study are promising. The ambulatory success rate is high and most complications are minor; 7/9 complications are Clavien-Dindo grade 1. Further prospective studies should be performed to confirm our findings.

Management of infected ureteral stents: An international questionnaire of urologists

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Introduction: There is no clinical guideline for the management of urosepsis in patients with ureteral catheters. The goal of this study was to identify, among urologists, the preferred management of urosepsis in a patient with a chronic double J (DJ) stent.
Methods: An online questionnaire was shared to various urology associations and groups, as well as using social media. Country of practice, years of experience, and subspecialty were collected. The scenario described a 50-year-old female presenting with fever, tachycardia, and flank pain, known for a chronic DJ, with the last exchange performed one month prior to presentation. Respondents could choose between treating with antibiotics and keeping the same DJ exchange schedule, or urgent DJ exchange, or an alternative management they defined. Responses were collected between July and August 2021. Statistical analysis was performed using Prism software.
Results: A total of 396 participants completed the survey. Responses from 48 countries were collected, with 135 (34.1%) respondents from Canada. Half (50%) of respondents had more than 10 years of experience in their field. About 5% of respondents were non-urological medical specialists. Results were as follows: 69.7% of participants described management with antibiotics alone, 17.4% of participants described urgent DJ exchange, and 12.9% of participants proposed an alternative management. The most frequent alternative management was DJ exchange after initiating antibiotics for a few days.
Conclusions: This online questionnaire allowed us to explore the various managements proposed by urologists in a patient with urosepsis and chronic DJ stent, with a majority of urologists opting for medical management alone.

Analysis of sex-based differences to bacillus Calmette-Guérin for non-muscle-invasive bladder cancer

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Introduction: The incidence of urothelial carcinoma of the bladder is lower in women but they tend to present with more aggressive and advanced disease. Furthermore, there appears to be sex-based difference in response to treatment for non-muscle-invasive bladder tumors. The objective of this study is to evaluate whether there are differences between men and women in response to intravesical bacillus Calmette-Guérin (BCG) treatments. Outcomes evaluated include recurrence, progression, and treatment tolerability.
Methods: In this retrospective study, we reviewed all patients who received BCG at the CHU de Québec-Laval University from 2009–2019. Men and women were treated with intravesical BCG therapy following a transurethral resection of urothelial carcinoma. Recurrence was defined as a pathology confirmed cancer, whereas progression was the new development of high-grade pathology or an increase of stage. Tolerability was defined according to the proportion of prescribed BCG received. All clinical details were obtained through review of the medical records, collaborated by pharmacy records for BCG administration.
Results: Among 613 patients who received BCG at our institution from 2009–2019, 472 (77.0%) were men and 141 (23.0%) were women. Competing-risk analysis was used to compare outcomes. The completion of ≥5 induction BCG instillations and maintenance BCG use was similar in both genders. The recurrence rate was not different between sexes, with a five-year recurrence risk of 52% (95% confidence interval [CI] 36.93–65.4) among women compared to 57.5% (95% CI 51.9–62.6) among men. The overall progression rates at one, three, and five years were 97.3% (95% CI 95.6–98.3%), 93.6% (95% CI 91.2–95.4%), and 91.7% (95% CI 88.4–94.1%), respectively. No differences were observed between sexes.
Conclusions: In summary, we report a contemporary non-muscle-invasive bladder cancer cohort treated with BCG and find no clear evidence for sex-based differences in response to BCG treatment in regards to progression, recurrence, and tolerability.

Évaluation de l'impact des recommandations de l'USPSTF concernant le dépistage de l'APS sur le diagnostic du cancer de la prostate

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Introduction : La biopsie prostatique est une intervention diagnostique primordiale lors de l'évaluation d'un patient pour un cancer de la prostate. La technique par échographie transrectale a grandement évolué jusqu'à devenir une biopsie systématique à 12 échantillons. Conjointement aux technologies d'imagerie, les recommandations concernant l'indication de référence en biopsie évoluent aussi. Le marqueur sérique ayant contribué de manière la plus répandue au dépistage d'un risque de cancer de la prostate est l'antigène prostatique spécifique (APS). Conjointement avec le contexte clinique, ce marqueur sérique est important dans l'algorithme décisionnel conduisant ou non à une biopsie de la prostate. Le dépistage de masse n'est cependant pas inoffensif, puisqu'il peut mener à une plus grande proportion de biopsies négatives. Les biopsies demeurent des interventions invasives comportant des risques d'infection, pouvant mener au diagnostic de cancers de bas grade souvent considérés comme non-cliniquement significatifs, et souvent accompagnés d'un poids émotionnel négatif. Pour faire suite aux recommandations 2011-2014 concernant la référence en biopsie, un nouveau rapport de recommandations en matière de dépistage de l'APS a été publié par la United States Preventive Services Task Force (USPSTF) en 2018. Le but de ce projet est donc d'évaluer, sur une base institutionnelle, l'impact de l'énoncé du USPSTF de 2018 sur le dépistage de l'APS dans le diagnostic de cancer de la prostate au CHU de Québec-Université Laval et déterminer la tendance des vélocités de PSA en relation avec l'incidence et le stade diagnostic du cancer de prostate.
Méthodes : Les données cliniques provenant des dossiers médicaux de tous les patients ayant subi une biopsie prostatique entre le 1er janvier 2014 et le 31 décembre 2020 au CHU de Québec-Université Laval et ayant reçu un dépistage d'APS ont été utilisées rétrospectivement pour analyser les associations entre ces deux variables. Les bilans sanguins d'APS associés aux grades histopathologiques (score de Gleason) des biopsies de prostate ainsi que le profil des patients ayant obtenu un dépistage ont permis d'évaluer les tendances annuelles, en fonction de l'impact des indications cliniques de 2018 et des précédentes. Les calculs de cinétique de l'APS avant la biopsie ont permis d'observer la capacité

de l'APS à suggérer un cancer de haut grade par rapport à un cancer de bas grade.
Résultats : Le nombre de biopsies annuelles a passé de 902 en 2014 à 1326 en 2020, à raison d'une augmentation annuelle moyenne de 70 biopsies. Le nombre de biopsies annuelles le plus élevé fut en 2018 avec 1456 biopsies et a été suivi d'une diminution marquée en 2019 de 223 biopsies pour un total de 1233 biopsies. La proportion de cancer de haut grade (Gleason 7 à 10) a aussi augmenté par rapport au cancer de bas grade (Gleason 6 ou négatifs). En effet, la quantité de cancer de haut grade diagnostiqué chaque année a augmenté en moyenne de 2,2% depuis 2014, passant de 35% des biopsies annuelles en 2014 à 48% en 2020. Le nombre de biopsies de bas grade a augmenté en moyenne de 17 biopsies par année en raison de l'augmentation du nombre total de biopsies annuelles, alors que l'augmentation moyenne des biopsies de haut grade est de 54 biopsies par année.
Conclusions : Les résultats de ces analyses sont importants afin de dresser un portrait réaliste des patients référés pour biopsies de la prostate au CHU de Québec-Université Laval, et de mieux comprendre l'impact des recommandations de l'USPSTF 2018 sur les diagnostics de cancer de la prostate.

A retrospective study analyzing the effect of transcutaneous tibial nerve stimulation for adults with idiopathic underactive bladder

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Introduction: The aim of this study was to explore the effect of transcutaneous tibial nerve stimulation (TTNS) in the treatment of idiopathic underactive bladder (iUAB) with regards to symptom and quality of life (QoL) improvement.
Methods: This is a retrospective, single-center study of patients with a clinical and urodynamic diagnosis of iUAB without bladder outlet obstruction (BOO) who are on the waiting list for sacral neuromodulation (SNM). The patients followed a three-week TTNS treatment. Voiding diaries were collected at baseline, week 1, and week 3. Changes in iUAB symptoms were measured with a validated scoring instrument (Patient Global Impression of Improvement [PGI-I]).
Results: A total of 26 patients were included in the study and 22 completed their bladder diaries. Overall, 10 (38%) patients had an increase in voided volume per micturition (interquartile range [IQR] 12:63 mL); 17 (65%) patients saw an increase in their daily voiding frequency (IQR 1.3:3.0 voids/day); 13 (50%) patients had a decrease in the postvoid residual (IQR -142:-33 mL); and 5 (19%) saw a decrease in the number of daily self-catheterizations (IQR -2.5:-0.9 KT/day). Of the patients who completed their bladder diary, TTNS was a success in 10 (45%) and was a failure in 12 (55%) of them. Eighteen patients both completed the PGI-I questionnaire and their bladder diaries. Twelve (67%) patients had comparable results (success at TTNS and improvement reported in the PGI-I, or failure at TTNS and no improvement in the PGI-I). Three (17%) patients noted an improvement in the PGI-I, but TTNS was considered as a failure with objective measures.
Conclusions: Despite the fact that it can have damaging health impacts and that it generates negative effects on QoL, UAB remains relatively under-researched. Treatment options are sparse and often unsatisfactory. SNM is the only FDA-approved treatment for non-obstructive urinary retention. Studies have demonstrated the effectiveness and safety of TTNS in overactive bladder (OAB), but no clinical trials have been reported for iUAB. This study explores the feasibility of TTNS for iUAB patients without BOO. Indeed, a good proportion of patients saw improvements in all bladder diary parameters. There is also a considerable range and variability of responses among patients. Further studies looking at baseline demographic and/or urodynamic characteristics of patients in order to better understand this variability would be interesting. Our study is not without its limitations, such as the small sample size, the absence of a control group and the possibility for selection bias. Despite this, our research demonstrates the potential effects on voiding symptoms for iUAB patients without BOO. To our knowledge, this is the first study that assesses the feasibility of TTNS in the treatment of iUAB. Further studies with greater power and/or conducted prospectively should be pursued to better assess its clinical efficacy.

Postoperative sick leave in urology: Survey to urologists in Quebec

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Introduction: There are currently no clear recommendations regarding the length of postoperative sick leaves after a specific urological surgery. The primary objective of our study is to assess the duration of the postoperative sick leave prescribed by urologists in Quebec. The secondary objective is to assess whether gender, type of practice, and surgeon experience may impact the recommended duration.
Methods: Members of the Quebec Urological Association (QUA) were sent an online survey in October 2020. The first section of the multiple-choice questionnaire inquired on the respondent's demographics, while the last assessed the sick leave prescribed after six common surgeries.
Results: The survey was sent to 171 urologists. A total of 74 (43.3%) responded. Two-thirds of the respondents were men (67.6%). About half of the respondents worked in a community setting (56.8%) and practiced for over 10 years (55.4%). For patients with work that was considered physically light, respondents with less experience (≤10 years of practice) seemed to prescribe longer sick leaves after laparoscopic renal surgeries (p=0.05) and retropubic/trans-obturator mid-urethral slings (p=0.01). Respondents with a high surgical volume of ureteroscopies (>50 cases per year) appeared to prescribe shorter sick leaves for physically strenuous work (p=0.06). Women prescribed longer sick leaves after laparoscopic renal surgeries (p=0.02).
Conclusions: It appears that there is often an association between the years of practice and the length of postoperative sick leaves. Further studies at a larger scale with more specific questions to address the rationale of the length of sick leaves would be valuable.

Randomized controlled trial comparing ultrasound-guided pudendal nerve block to ultrasound-guided penile nerve block for analgesia during pediatric circumcision

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Introduction: Pediatric circumcision has been realized since the beginning of human civilization. However, optimal analgesia has not yet been clearly defined. The dorsal penile nerve block (DPNB) has been shown to be superior to topical analgesia in neonatal circumcision. A Cochrane review showed no difference in pain scores between DPNB and caudal block (CB) but described more motor block with CB. Recently, the new ultrasound-guided pudendal nerve block (PNB) has been popularized. This randomized clinical trial compares two modern regional blocks under general anesthesia for pediatric circumcision: ultrasound-guided PNB or ultrasound-guided DPNB.
Methods: Young males from 1–12 years old undergoing elective circumcision for a medical reason (pathological phimosis, urological variants, recurrent urinary tract infections, balanoposthitis) were randomized to either ultrasound-guided PNB or DPNB under general anesthesia. We excluded patients with allergy to local anesthetics or medications used, coagulopathy, infection at the injection site, neurological or neuromuscular disease, or ASA score >4. Our primary outcomes were Face, Legs, Activity, Cry, Consolability (FLACC) scores at five, 30, 60, and 120 minutes postoperative and parent's postoperative pain measure (PPPM) at six, 12, and 24 hours postoperative. Our secondary outcomes were analgesic consumption during the first 24 hours, time to first opioid consumption, surgeon's satisfaction, parental satisfaction, time to perform the block, hemodynamic changes intraoperatively, complications from the block, total time in PACU, and total time before discharge. Regional blocks were done by a different anesthesiologist, so anesthesiologists leading the cases were blinded to the block used. Intraoperative pain and hemodynamics management were standardized.

Results: A total of 155 patients having circumcision by four pediatric urologists were included for analysis. Mean age was 7.3 years old. Seventy-eight patients had a DPNB and 77 had a PNB by five different anesthesiologists. FLACC scores at five, 30, 60, and 120 minutes were 0.6 (0.2; 1.0), 0.7 (0.3; 1.2), 0.6 (0.2; 1.0), and 0.2 (0.0; 0.4) for DPNB, respectively, and 1.0 (0.5; 1.5), 0.7 (0.3; 1.1), 0.2 (0.0; 0.4), and 0.1 (0.0; 0.2) for PNB, respectively. PPPM at six, 12, and 24 hours were 3.7 (2.9; 4.5), 2.0 (1.3; 2.6), and 3.1 (2.4; 3.8) for DPNB, respectively, and 3.1 (2.4; 3.8), 1.6 (1.0; 2.3), and 2.8 (2.2; 3.5) for PNB, respectively. None of these differences were statistically significant. Mean time to perform DPNB was 121.5 seconds and 119.8 seconds for PNB (p=0.6). Surgeon satisfaction was higher with PNB (90.8% judged optimal vs. only 56.6% for DPNB, p<0.01). Intraoperative hemodynamic changes (>20% rise of cardiac frequency or blood pressure) were noted in 9.0% of DPNB and 33.8% of PNB (p<0.01). Intraoperative fentanyl use was higher with PNB (1.3 mcg/kg vs. 1.0 mcg/kg for DPNB). Analgesic consumption during the first 24 hours, time to first opioid consumption, parental satisfaction, block complication, total time in PACU, and total time before discharge were not different between the two blocks.

Conclusions: Both ultrasound-guided DPNB and ultrasound-guided PNB under general anesthesia provide excellent intraoperative and postoperative analgesia. Higher surgeon satisfaction was noted with PNB due to DPNB subcutaneous tissue infiltration. Few statistically different analgesic outcomes were noted, but none were clinically significant.

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Subclinical inflammation as a predictor for erectile dysfunction after brachytherapy for localized prostate cancer

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Introduction: Neutrophil-to-lymphocyte ratio (NLR), a marker for subclinical inflammation, has been previously shown to be associated with erectile dysfunction (ED). Treatment of localized prostate cancer (PCa) is also associated with a greater risk of ED. In this study, we aimed to determine the potential predictive value of the NLR on ED after prostate brachytherapy (PB) for PCa.

Methods: Between July 2005 and January 2021, 842 patients were included in this retrospective study of a prospectively maintained database. ED was assessed using the Common Terminology Criteria for Adverse Events (CTCAE) physician-reported scale. Patient characteristics and erectile function at last followup were compared for patients with a baseline NLR<2 and ≥2. Univariate and multivariate analyses were performed to evaluate the predictive value of baseline NLR ≥2 on post-PB ED. The primary outcome was ED prevalence post-PB.

Results: Baseline NLR≥2 was found to be a statistically significant predictor of post-PB ED on both univariate (p=0.002) and multivariate analyses (p=0.008). Furthermore, the difference in ED prevalence between the NLR<2 and NLR ≥2 groups became more pronounced, with longer followup after PB. The ED rate at five years post-PB was 43% for the NLR≥2 group, compared to 29% for the NLR<2 group. The clinical implication is that subclinical systemic inflammation may be a potentially important factor for predicting sexual toxicity after pelvic radiotherapy. NLR may be used as a proxy for predicting post-PB ED.

Conclusions: In a large cohort of patients with PCa who underwent PB, it was found that NLR was a predictor of post-treatment ED, even after adjusting for available covariates, including age and known risk factors for endothelial dysfunction.

Pharmacovigilance analysis of reports of sexual dysfunction associated with finasteride use: Implications for the post-finasteride syndrome

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Introduction: Finasteride, a 5αreductase inhibitor, is used in the management of androgenetic alopecia and benign prostatic hyperplasia (BPH). There is growing attention to the post-finasteride syndrome, a constellation of adverse events associated with finasteride use, which include sexual dysfunction. We investigated reports of sexual dysfunction associated with finasteride.

Methods: We conducted a pharmacovigilance study using VigiBase. We used the reporting odds ratio (ROR). Sensitivity analyses were stratified by indication (BPH and alopecia) and age (<45 and ≥45). We compared finasteride signals to those of drugs with different mechanisms but similar indications (minoxidil for alopecia and tamsulosin for BPH), compared finasteride to a drug with a similar mechanism of action (dutasteride), and compared reports of sexual dysfunction before and after 2012.

Results: We identified 7700 sexual dysfunction reports associated with finasteride. There was a disproportionality signal for sexual dysfunction associated with finasteride (ROR 50.3, 95% confidence interval [CI] 49.0–51.6). Patients under 45 (ROR 56.4, 95% CI 53.1–59.9) and alopecia patients (ROR 64.9, 95% CI 62.7–67.2) drove the signal. All sensitivity analyses met the threshold of signal significance.

Conclusions: We detected disproportional signals of sexual dysfunction linked with finasteride use. Despite sexual dysfunction being more prevalent in older BPH patients, we detected larger signals of sexual dysfunction in young alopecia patients. Sensitivity analyses suggest that reports of sexual dysfunction linked with finasteride use may be confounded by indication and by stimulated reporting. However, confounding alone is unlikely to account for the totality of the signal observed in young patients with alopecia.

Impact of age and fertility status on the consistency of repeat measurements of sperm DNA damage: A single-center, prospective, dual-visit study

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Introduction: Abnormal routine semen parameters and DNA damage can occur with advanced paternal age and infertility. This study examines these relationships and controls for biases contested in the current literature.

Methods: We conducted a prospective study using 151 semen samples collected from men aged 18–80 years at two visits with 1–3-month intervals. Samples were collected from both infertile and general population controls. Conventional semen parameters were measured, including volume, concentration, and motility. Sperm DNA damage was measured using the %DNA fragmentation index (%DFI) and high DNA stainability (%HDS) using sperm chromatin structure assay (SCSA). Patients were then classified according to %DFI as normal (<18), intermediate (18–27), or high (>27).

Results: Significant correlation between all sperm parameters was seen between both visits regardless of age. DFI had the highest correlation between both visits (R^2=0.77). Progressive motility, total motility, and %DFI were significantly affected in men >50 years old when compared to men <35 and men 35–49 years old (Kruskal-Wallis, p<0.001). Forty-eight percent of men with intermediate %DFI changed category on their second visit, whereas men with high and low %DFI changed category in 15% and 9%, respectively.

Conclusions: Sperm and SCSA parameters do not change significantly between two visits at 1–3-month intervals in the total population and after subgrouping. Men of advanced age have poorer sperm parameters and more DNA damage. Men with initially normal or elevated %DFI are unlikely to change DNA damage category. Older men are more likely to have sperm parameters and DNA damage change on repeat semen analysis compared to younger men.

Oral cyclosporine a in association with fulguration for the treatment of interstitial cystitis with Hunner's lesions

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Introduction: Cyclosporine A (CyA) is a last-line treatment for interstitial cystitis/bladder pain syndrome (IC/BPS) due to a paucity of literature reporting its efficiency and potential adverse events. A few studies demonstrated the greater benefit of the immunosuppressant in IC/BPS patients with Hunner's lesion (HL) compared to those without HL. In the subset of patients with HL, fulguration is a recommended treatment, however, symptoms are likely to reoccur within one year. Our objectives were to assess the clinical outcomes of refractory IC/BPS patients with HL treated with lesion fulguration in association with CyA as a maintenance therapy and to assess CyA safety profile. We hypothesized that low-dose CyA could allow sustained symptom alleviation while limiting adverse events, therefore decreasing the need for repeated procedures.

Methods: This was a retrospective, observational study of refractory IC/BPS patients with HL treated with daily 1.5 mg/kg CyA following lesion fulguration from April 2015 to March 2021. Dose reduction was conducted in stable patients with prolonged treatment duration or in the occurrence of adverse events. Unsatisfied patients were allowed to undergo further procedures. Pain severity on a 0–10 scale, subjective improvement assessed via the Subjective Improvement Rate (SIR) and Patient Global Impression of Improvement (PGI-I), urinary symptoms, and adverse events were collected throughout the followups. Data at the last followup was used to assess long-term treatment efficiency.

Results: Twenty-two patients underwent fulguration and received CyA during a median followup of 27 months (interquartile range 13.0–45.3). At the last followup, patients reported sustained significant pain reduction, with a median pain score of 0/10 compared to 8/10 prior to CyA introduction ($p<0.001$). Urinary frequency per 24 hours significantly decreased to 9.5 compared to 20.8 pre-treatment ($p< 0.001$) and nocturia decreased to 2.3 episodes per night in contrast to six pre-treatment ($p<0.001$). SIR and PGI-I were of 90% and 1 ("very much better"), respectively, including four patients who considered themselves cured (SIR 100%). Only three patients needed one additional treatment with triamcinolone injections or fulguration due to pain relapse at their followup of three, 13, and 33 months. CyA dose was decreased to 1.2 mg/kg or less in 12 patients who remained relieved subsequently. Reasons for dose decrease were long-term symptom alleviation (n=6), increased creatinine measurements (n=5), or decreased platelets or leucocytes (n=1). Significant overall decrease in renal function was observed, however, remained clinically not significant, and improvement in renal function was observed following CyA dose reductions. De novo or worsening arterial hypertension was diagnosed in three patients. One patient only discontinued CyA due to abdominal pain.

Conclusions: Oral CyA seems to allow a sustained long-term response following HL fulguration by alleviating pain, decreasing urinary symptoms, and procuring great subjective improvement. The low dose of 1.5 mg/kg appears to have limited adverse events while preventing the need for repeated procedures.

Opioids use after uro-oncological surgeries in time of opioid crisis: The Quebec experience

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Introduction: Recent literature emphasizes how overprescription and lack of guidelines contribute to wide variation in opioid prescribing practices and opioid-related harms. We conducted a prospective, observational study to find how many opioids uro-oncological patients received at hospital discharge and how many they need at home.

Methods: Four surgeries were included: open retropubic radical prostatectomy, robot-assisted laparoscopic radical prostatectomy, laparoscopic radical nephrectomy, and laparoscopic partial nephrectomy. The primary outcome was to find the dose of opioids used after discharge (in oral morphine equivalent [MEq]). Secondary outcomes were: opioid requirement for 80% of the patients, management of unused opioids, opioid use three months postoperative, opioid prescription refill, and information about opioid disposal.

Results: Sixty patients were included for analysis. Patients used a mean of 30 MEq (17.8; 95% confidence interval [CI] 42.2) at home and 80% of the patients used 50 MEq or less. A mean of 40.4 MEq per patient were overprescribed. Fifty percent of the patients kept the remaining opioids at home. Only 20.0% returned them to their pharmacy. After three months, 5.0% of the patients were using opioids at least occasionally. Three patients needed a new prescription. Forty percent reported having received information about overprescribed opioids management at three months.

Conclusions: We found a 60% overprescription of opioids. Half of our patients kept their unused tablets at home. Eighty percent of the patients used 50 MEq or less. We should decrease our prescription to this dose. The optimization of co-analgesia could even decrease opioid requirements. Multidisciplinary consensus for local guidelines should be considered.

Comparing skill acquisition of renal access techniques for percutaneous nephrolithotomy using simulation in surgical training

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Introduction: Percutaneous nephrolithotomy is a challenging procedure that urology trainees should be familiar with during residency. The advent of simulators, such as the PERC Mentor, allows this development of competency in a safer and stress-free environment. There are two primary methods of gaining percutaneous renal access: the triangulation method and the bull's eye method. It is generally believed that it is more difficult to teach the triangulation access, however, to our knowledge, there is no study comparing the skill acquisition of both techniques. Our goal was to assess which method is associated with an easier attainment in aptitude by using the PERC Mentor simulator. A secondary goal was to assess differences in subjective and objective outcomes between the two methods.

Methods: Fifteen simulator and procedure-naive medical trainees were randomized into two groups using a cross-over randomized study design. Participants were provided with written, video, and live in-person instructions on how to perform each technique. They all performed both methods on the PERC Mentor simulator and were assessed objectively using the PERC Mentor performance data report and subjectively using the PCNL-GRS scoring system. Statistical analysis was performed using Student's t-test and non-parametric Wilcoxon signed rank test.

Results: There was no statistical difference in the outcomes and complication rates between the two methods. The bull's eye method of obtaining PCA was associated with a significant decrease in operative time, as well as fluoroscopy time compared to the triangulation method.

Conclusions: Teaching of both techniques was equally well-received by students. Percutaneous renal access could be obtained using either technique successfully. The bull's eye method, however, was associated with less operative and fluoroscopy time when compared to the triangulation method.

La prise en charge des masses rénales par surveillance active : une étude qualitative sur les facteurs influençant la perception du patient

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Introduction : La majorité des patients diagnostiqués avec une petite masse rénale suspecte de néoplasie choisissent d'être traitée par un

traitement définitif, tel qu'une chirurgie ou une ablation-thermique. La surveillance active qui vise à retarder ou éviter le traitement définitif tant que les masses ne progressent pas est une alternative qui est de plus en plus envisagée. Comme toutes les masses ne sont pas cancéreuses et que même celles malignes sont relativement indolentes, cette alternative a pour but de diminuer le surtraitement et les complications reliées aux traitements. Cette option a déjà été prouvée efficace, mais aucune recherche n'a été réalisée sur la perception des patients quant à la surveillance active et les facteurs l'influençant. L'étude a pour buts de décrire les perceptions des patients concernant la prise en charge des petites masses rénales par surveillance active et d'identifier les facteurs influençant ces perceptions.
Méthodes : Les patients aptes, majeurs, communiquant en anglais ou en français et diagnostiqués avec une masse rénale ont été ciblés pour cette étude qualitative descriptive multicentrique (n=3) selon un échantillonnage intentionnel par grappes. Les données ont été collectées à l'aide de groupes de discussion et d'un questionnaire socio-démographique. Les discussions ont été enregistrées et retranscrites, puis une analyse thématique inductive a été effectuée afin d'analyser les données.
Résultats : Six groupes de discussion composés de trois à six personnes ont été réalisés dans trois centres pour un total de 24 participants. Au cours des discussions, de nombreux avantages et inconvénients de la surveillance active ont été soulevés par les participants qui percevaient majoritairement la surveillance comme une option permettant d'éviter les traitements à visée curative et leurs complications potentielles. La surveillance était cependant perçue comme une solution temporaire qui affecterait leur chance de survie et leur qualité de vie. De plus, huit différents facteurs influençant ces perceptions ont été rapportés par les participants. Les facteurs incluent entre autres l'âge et l'état de santé du patient, la personnalité du patient, les caractéristiques de la masse et la confiance du patient envers son médecin traitant et les recommandations de ce dernier.
Conclusions : Selon notre étude, le facteur principal influençant le choix de traitement du patient est la confiance envers le médecin et l'avis de ce dernier. Dans l'optique d'augmenter l'utilisation de la surveillance active, le développement d'outils d'information axé sur le patient semble donc primordial afin de lui permettre de prendre une décision selon ses propres valeurs et préférences et ainsi amoindrir l'influence du médecin dans sa prise de décision.

Néphrectomie partielle robot-assisté par approche rétropéritonéale : notre expérience initiale

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Introduction : La néphrectomie partielle laparoscopique est le traitement chirurgical de choix pour les petites masses rénales. Toutefois, l'accès à des masses postérieurs peut s'avérer difficile. La chirurgie robot-assistée permet généralement une meilleur dextérité dans un petit espace. L'objectif de l'étude est d'une part de présenter notre approche laparoscopique rétropéritonéale robot-assistée, et de décrire notre expérience initiale.
Méthodes : Le patient est placé en décubitus latéral avec la table en position de flexion juste au-dessus de la crête iliaque. Une incision de 10-12mm est effectuée à mi-chemin entre la pointe de la 12^{e} côté et la crête iliaque. Les différentes couches sont incisées jusqu'à l'atteinte de l'espace rétropéritonéale. Un ballon de dissection avec caméra laparoscopique est utilisé pour le développement de l'espace initial. Un premier trochart robotique de 8mm est inséré en direction dorsal à la même hauteur que le trochart de caméra. À l'aide d'un instrument laparoscopique, le peritoine est récliné médialement pour permettre l'insertion des autres trocharts dans l'espace rétropéritonéale. Le reste de la procédure s'effectue de façon standard avec la dissection du hile rénal, de la masse rénale, du clampage hilaire, de l'exérèse et finalement de la rénorraphie.
Résultats : De mai 2019 à juin 2021, neuf néphrectomies partielles robot-assisté par approche rétropéritonéale ont été effectuées (trois sur le rein droit et six sur le rein gauche). Sept étaient des hommes et deux des femmes ; l'âge moyen était de 58 ans (41-66). Les neuf procédures ont été complétées avec succès, sans aucune complication per ou post opératoires. La taille moyenne des lésions était 2,3cm (0,9-30). Six étaient des carcinomes à cellules claires, deux étaient des carcinomes chromophobes et un était un oncocytome. Le temps opératoire moyen était de 158 min (114-242), et les pertes sanguines s'élevaient à 106 cc (0-500). La durée d'hospitalisation était de deux (1-4) jours.
Conclusions : La néphrectomie partielle robot-assisté par approche rétropéritonéale est une technique permettant un accès facile et rapide à des masses rénales postérieurs. Les résultats postopératoires semblent similaires à l'approche transpéritonéal avec possiblement une durée de séjour moindre.

Le bisphénol A pourrait favoriser la transition des cancers de vessie non-invasifs en cancers invasifs

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Introduction : Les plastiques contiennent souvent des bisphénols (BP) qui agissent comme perturbateurs endocriniens. Le BPA est retrouvé dans 90% des échantillons d'urine. L'exposition aux BP est associée à la progression tumorale pour les cancers hormono-sensibles. La vessie n'est pas un tissu hormono-sensible, mais l'activation des récepteurs hormonaux joue un rôle dans le développement du cancer de la vessie. La transition d'un métabolisme mitochondrial vers un métabolisme glycolytique (effet Warburg) est une caractéristique des tumeurs. Notre hypothèse est qu'une exposition chronique des cellules urothéliales (UC) et cancéreuses au BPA devrait augmenter le phénotype invasif des cellules cancéreuses, en plus de potentialiser l'induction des fibroblastes vésicaux (FHu) en fibroblastes associés au cancer (CAF), amplifiant ainsi l'effet Warburg et favorisant l'invasion tumorale.
Méthodes : Des UC et cancéreuses non-invasives (RT4) et invasives (T24) ont été exposées au BPA 10^{-8} M. L'impact du BPA a été mesuré au niveau du métabolisme énergétique, de la prolifération et de la migration. Des FHu sains ont été utilisés et induits en CAF avec du milieu conditionné par des RT4 ou T24. Le métabolisme des FHu/CAF a aussi été mesuré. L'expression d'α-SMA, reflétant la capacité d'invasion, par les RT4 et T24 ± BPA a été analysée par cytométrie en flux.
Résultats : Après une exposition chronique au BPA, le métabolisme énergétique, la prolifération et la migration des UC sont diminués, tandis que ces paramètres sont augmentés pour les cellules cancéreuses. De plus, le métabolisme des FHu exposés au BPA est diminué. Les CAF conditionnés par des RT4/T24 avec BPA démontrent une reprogrammation métabolique accentuée, caractérisée par une augmentation de la glycolyse. De plus, les RT4 exposées chroniquement au BPA expriment plus l'α-SMA.
Conclusions : L'exposition chronique au BPA diminue le métabolisme énergétique des cellules saines (UC et FHu), ce qui pourrait entraîner des conséquences au niveau de la réparation tissulaire et de la production de la matrice extracellulaire. L'augmentation de l'activité physiologique des cellules cancéreuses et de l'expression d'α-SMA chez les RT4 avec BPA pourraient favoriser l'invasion tumorale. L'augmentation du métabolisme glycolytique des CAF mène à une acidification du milieu extracellulaire entraînant une dégradation de la matrice, favorisant ainsi l'invasion tumorale. Ainsi, l'exposition environnementale chronique au BPA pourrait avoir un impact clinique important chez les patients atteints d'un cancer superficiel de la vessie.

Assessing the accuracy, quality, and readability of online information related to the surgical management of benign prostatic hyperplasia

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Introduction: We aimed to assess the accuracy, quality, and readability of online educational health information in English related to the most common benign prostatic hyperplasia (BPH) guideline-approved surgical treatments.

Methods: The terms "benign prostatic hyperplasia," "BPH," and all eight guideline-approved treatment modalities studied were searched to retrieve the first five relevant websites and first two paid advertised websites related to the surgical treatment options for BPH. These modalities included transurethral resection of the prostate (TURP), GreenLight photovaporization, endoscopic enucleation of the prostate, Rezum, Urolift, Aquablation, open simple prostatectomy (OSP), and robotic simple prostatectomy (RSP). All relevant websites were assessed for their accuracy, quality, and readability using standardized scoring systems.

Results: The mean accuracy score for each of the treatment modalities were all indicative of good accuracy, with 76–99% of the information presented as being accurate. The median quality score was statistically different across the eight treatment modalities (p=0.015). The median readability grade level was statistically different across the eight treatment modalities (p=0.009). Websites that described TURP (median readability grade level 9.00, interquartile range [IQR] 8.00–10.80) were significantly easier to read than those related to RSP (median readability grade level 14.35, IQR 11.08–16.50) (p=0.011). No other statistically significant differences were found within the other treatment modality websites.

Conclusions: Most websites retrieved were found to be of high accuracy, good quality, and poor readability. Additionally, it was found that none of the retrieved websites included descriptions for all of the other included treatment modalities. Given these findings, the authors recommend the development of centralized resources with all guideline-approved treatment modalities and accurate, readable, high-quality information related to the surgical treatment of BPH.

Évolution clinique et radiologique des kystes rénaux Bosniak IIF

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Introduction : La plus récente classe de kystes rénaux complexes Bosniak IIF (BIIF) regroupe des kystes nécessitant un suivi radiologique, sans intervention immédiate. Le suivi radiologique des kystes BIIF entraine des coûts, une exposition radique et un stress important pour les patients concernés. Des études récentes ont suggéré un potentiel de malignité plus faible que précédemment décrit pour les kystes BIIF. Notre objectif: de déterminer l'évolution radiologique et oncologique des kystes rénaux BIIF diagnostiqués à notre institution.

Méthodes : Une recherche des archives radiologiques du CHUS a permis d'identifier les patients diagnostiqués avec un kyste BIIF sur une TDM ou IRM avec contraste entre janvier 2000 et décembre 2018. Les images disponibles ont été révisées par un de trois radiologues dédiés et formés pour confirmer le diagnostic et établir l'évolution radiologique. Une revue des dossiers cliniques a été effectué.

Résultats : Un total de 254 patients ont été initialement diagnostiqués avec un kyste BIIF. Suite à la révision des images initiales, 53 kystes (21%) ont été re-classifiés en BI ou BII et exclus. Des kystes BIIF confirmés, le suivi radiologique avec contraste moyen était de 50.1 mois. La majorité (54%) de ces kystes sont restés stables ou ont diminué en taille. 82% des kystes sont demeurés de classe BIIF, alors que 11% ont été re-classifié à la baisse durant le suivi. 7% des kystes ont évolué en BIII ou BIV après révision des images de suivi. Cinq patients ont subi un traitement chirurgical de leur kyste, et une seule pathologie néoplasique a été découverte. Aucune progression oncologique ou maladie métastatique n'a été rapportée.

Conclusions : La transformation des kystes rénaux BIIF en kystes plus complexes était moins fréquente que précédemment rapporté dans la littérature, et la découverte de maladie maligne était excessivement rare. Une proportion significative des kystes étaient sur-diagnostiqués par les radiologues. Ces résultats suggèrent un comportement indolent et bénin pour la très vaste majorité des kystes rénaux BIIF, et soulignent l'importance d'une révision adéquate par un uro-radiologue expérimenté.

External validation of the molecular subtype classifier by immunohistochemistry for muscle-invasive bladder cancer patients within the trimodal therapy cohort

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Introduction: Bladder-sparing approaches for muscle-invasive bladder cancer (MIBC), such as trimodal therapy (TMT), are increasingly offered to select candidates. Patient selection and oncological outcomes may be affected by distinct molecular subtypes based on gene expression profiling. Tumors of the basal subtype were previously shown to carry a poorer prognosis, whereas tumors of the luminal subtype were associated with improved overall survival (OS). We aimed to classify MIBC patients into distinct molecular subtypes and to evaluate whether the three-antibody immunohistochemistry-based classifier based on the Lund taxonomy correlates with survival outcomes in the TMT cohort.

Methods: Tumoral, benign, and transition zone tissue from transurethral resection of bladder tumors of 104 patients were sampled on five tissue microarray blocks (TMA). We used the HaloLink digital pathology platform to measure KRT5, GATA3, and P16 biomarkers expression on tumoral slides. Hierarchical clustering was used to classify patients based on the three-antibody IHC algorithm biomarker expression profile. Subtypes were evaluated for association with complete response, recurrence-free survival (RFS), and overall survival (OS).

Results: The mean age was 72.2 years (standard deviation [SD] 10.9 years) and 22.6% were females. Median OS was 43 months (95% confidence interval [CI] 19–77) and median followup time was 55 months (95% CI 39–75). On univariate analysis, ECOG and complete response rate were predictors of significant difference in RFS (p<0.05). Age, ECOG, clinical stage, and complete response were found to significantly impact OS (p<0.05). Of 104 patients, immunohistochemistry-based subtype classification was feasible in 93 patients. Patients were successfully classified into basal subtype (23.7%), luminal genomically unstable (14.0%), luminal urothelial-like (31.2%), and negative/unclassified (31.2%). On Kaplan-Meier survival analysis, no significant differences in survival were observed between the molecular subtypes when comparing basal vs. luminal vs. negatives or basal vs. luminal (p>0.05). Although OS for basal vs. other subtypes was not significantly different (p<0.05), a clear difference early on during followup was seen.

Conclusions: Subtype identification using the immunohistochemistry-based three-antibody classification is feasible in the majority of patients. However, the three antibody-based molecular subtype classifier was not predictive of complete response or survival for MIBC patients post-TMT. Our study was likely underpowered to detect a significant difference in treatment response. Future larger-scale studies may help validate any association between these subtypes.

Head-to-head comparison and validation of two commonly used preoperative nomograms predicting biochemical recurrence and lymph node invasion in a cohort of high-grade prostate cancer patients

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Introduction: Current commonly used preoperative nomograms predicting postoperative clinical and pathological outcomes in prostate cancer patients have not yet been validated in selected high-grade prostate cancer patients. The aim of this study is to perform an external validation and to compare the performance of the Memorial Sloan Kettering Cancer Center (MSKCC) and University of California, San Francisco, Cancer of the Prostate Risk Assessment Score (UCSF-CAPRA) preoperative nomograms as predictors of biochemical recurrence (BCR) and lymph node invasion (LNI) in a contemporary North American cohort of high-grade prostate cancer patients.

Methods: This is a retrospective study focusing on 180 men with high-grade prostate cancers (Gleason ≥8) with available followup information treated at our institution between 2011 and 2020 with radical prostatectomy and pelvic node dissection for clinical stage T1 to T3 without receiving neoadjuvant or adjuvant therapy before biochemical recurrence. Descriptive statistics were applied. The area under the curve (AUC) of the receiver operator characteristic (ROC) analysis was used to quantify the accuracy of the nomograms at predicting LNI at prostatectomy. Nomograms performance at predicting BCR was evaluated using Cox proportional hazards regression analysis and the Harrell's concordance (c) index. Calibration plots were used to evaluate the models' estimating precision. Finally, a decision curve analysis (DCA) was computed to evaluate the net benefit associated with their use. Prospective data collection was approved by our institution's ethics board and all patients provided written consent before surgery.

Results: A total of 90 patients (50%) developed BCR within five years, and 49 (27%) had LNI at surgery. The MSKCC nomogram (c-index=0.6572, standard error 0.0286) was comparable to the CAPRA tool (c-index=0.6669, standard error 0.0295) at predicting five-year BCR; however, the MSKCC (AUC 76.2%, confidence interval [CI] 0.6865, 0.8374) nomogram showed better LNI predictive capability than the CAPRA (AUC 69.2%, CI 0.6060, 0.7780).

Conclusions: Current commonly used preoperative nomograms appear to have low accuracy at predicting BCR in a selected cohort of high-grade prostate cancer patients. While both may show acceptable accuracies at predicting LNI, the MSKCC nomogram appeared to have a better predictive capability.