

## Round up

### RADICAL PROSTATECTOMY WITHOUT PRIOR BIOPSY

This prospective study<sup>[1]</sup> aimed to evaluate the feasibility and accuracy of performing radical prostatectomy (RP) without prior prostatic biopsy in patients with high suspicion of prostate cancer (PCa) based on multiparametric magnetic resonance imaging (mp-MRI) and prostate-specific membrane antigen (PSMA) positron emission tomography (PET). Fifty patients underwent RP without prior biopsy. The patients were divided into three groups: Group 1 ( $n = 27$ ), with (i) suspicious digital rectal examination, (ii) prostate-specific antigen  $\geq 10$  ng/mL, (iii) Prostate Imaging Reporting and Data System 4/5 on mp-MRI, and (iv) high suspicion of PCa on PSMA-PET; Group 2 ( $n = 6$ ) fulfilling criteria i, ii, and iii, but did not undergo PSMA-PET imaging; Group 3 ( $n = 17$ ) fulfilling at least one clinical (i or ii) and one imaging (iii or iv) criterion. All of the patients were diagnosed with PCa on final histopathology. The study concluded that RP without prior biopsy is safe in diagnosing clinically significant PCa when applying proper preoperative risk stratification involving mp-MRI and PSMA-PET imaging.

### NOVEL BIOMARKERS TO PREDICT SURVIVAL IN CLEAR CELL RENAL CELL CARCINOMA

This study aimed to identify biomarkers to predict the prognosis of patients with clear cell renal cell carcinoma (ccRCC) using proteomic and transcriptomic data.<sup>[2]</sup> The researchers measured the concentrations of 92 inflammation-related proteins in cell-free urine supernatant and plasma from 17 patients of ccRCC. They performed a targeted mRNA analysis of genes encoding these proteins using the Cancer Genome Atlas. The results reported four novel biomarkers, with low expression of fibroblast growth factor 21, TWEAK, and CCL7 and high expression of CX 3CL1, distinguishing the severity of prognosis in ccRCC. The researchers developed a nomogram using transcriptomic risk factors and risk groups associated with overall survival (OS) to predict 2-year and 5-year OS across different tumor stages. The decision curve analysis showed that the model was associated with a net benefit improvement compared to the treat all or none strategies. These findings suggest that these novel biomarkers can provide noninvasive prognostic information to guide management strategies for ccRCC patients.

### HYDROCHLOROTHIAZIDE TO PREVENT KIDNEY-STONE RECURRENCE

In a recent double-blinded RCT, Dhayat *et al.*<sup>[3]</sup> estimated hydrochlorothiazide's (HCT) efficacy in preventing renal stone recurrence. Patients were randomized to receive HCT at 12.5 mg, 25 mg, 50 mg, or placebo once daily. The primary endpoint was the recurrence of renal calculus. A total of 416 participants were followed for a median of 2.9 years. Stone recurrence occurred in 60/102 (59%) in the placebo group, in 62/105 (59%) in the 12.5 mg HCT group (relative risk [RR] 1.33; 95% confidence interval [CI] 0.92–1.93), in 61/108 (56%) in 25 mg group (RR 1.24; 95% CI 0.86–1.79), and 49/101 (49%) in 50 mg group (RR 0.92; 95% CI 0.63–1.36). HCT dosage did not affect the primary endpoint event ( $P = 0.66$ ). HCT was associated with hypokalemia, gout, new-onset diabetes mellitus, skin allergy, and plasma creatinine levels above 150% of baseline. The authors concluded that HCT at 12.5 mg, 25 mg, 50 mg, or placebo had similar recurrence rates.

### TRANSPERINEAL LASER ABLATION OF THE PROSTATE: EFFICACY AND SAFETY IN BPH MANAGEMENT

Transperineal laser ablation is a minimally-invasive ejaculation-sparing procedure for BPH treatment. It requires a biplanar transrectal ultrasound (TRUS) and EchoLaser<sup>®</sup> system consisting of multisource diode lasers with four independent laser sources, operating at 1064 nm wavelength. TRUS-guided 21G Chiba needles are placed under local anesthesia, followed by laser fiber placement and energy delivery. The laser causes hyperthermia, denaturation, and coagulative necrosis of proteins.<sup>[4]</sup>

Seven studies ( $n = 315$ ) were included in the review, all single-arm and noncomparative. The prostate volume varied across the studies from 30 to 100 ml. All authors reported a significant, durable improvement in functional outcomes and promising efficacy at short to mid-term follow-up. Four authors reported improved postoperative International Index of Erectile Function (IIEF-5) scores, with no negative impact on erectile and ejaculatory functions. All authors reported a good safety profile with 0%–13% complication rates.

### PELVIC HYPOTHERMIA USING A RECTAL COOLING DEVICE DURING ROBOTIC-ASSISTED RADICAL PROSTATECTOMY TO IMPROVE POTENCY

This prospective phase I/II clinical trial by Han *et al.* evaluated the results of hypothermic robotic-assisted RP (RARP). The

research included 20 patients scheduled for RARP who had preoperative IIEF-5 scores of more than 12.<sup>[5]</sup>

An endorectal cooling device was used to induce pelvic hypothermia (BelloCool® System). The nadir neurovascular bundle temperature was 24.9°C (22.4–28.2) and 10.2°C (7.0–13.1) lower than the nadir core body temperature. There was no device-related complication, and bowel function was unaffected during the entire follow-up period. Potency and continence recovery rates were greater in the hypothermia group ( $n = 20$ ) than in the matched control group ( $n = 60$ ) at 12-month follow-up (40% vs. 15% [ $P = 0.03$ ] and 95% vs. 80% [ $P = 0.17$ ], respectively). The hypothermia group had a quicker rate of potency recovery on the Kaplan–Meier curve. The authors concluded that hypothermic RARP was both safe and practical.

### PROGNOSIS OF PRIMARY PAPILLARY TA GRADE-3 BLADDER CANCER IN THE NON-MUSCLE-INVASIVE SPECTRUM

Ta Grade-3 (G3) nonmuscle-invasive bladder cancer (NMIBC) is a rare diagnosis with an aggressive grade and nonaggressive stage. This retrospective (1990–2018) multi-institutional study compared the prognosis of Ta-G3 bladder tumors with Ta-G2 and T1-G3 tumors.<sup>[6]</sup> The authors reported that patients with Ta-G3 tumors (7.5% [318/5170]) had a prognosis between the Ta-G2 and T1-G3 tumors in terms of 5-year progression. However, the time to recurrence was similar for all the groups. Patients with Ta-G3 tumors with CIS had a prognosis comparable to those with T1-G3 tumors with CIS. The study endorses revisions in the EAU NMIBC guidelines for improved risk stratification of Ta-G3 tumors, as many patients had a more favorable prognosis than previously believed.

### BIOMARKERS PREDICTING RESPONSE TO ANTI-PD-1 THERAPY IN METASTATIC CLEAR-CELL RENAL CELL CARCINOMA

This retrospective study ( $n = 198$ ) aimed to identify a combinatorial biomarker that can predict the response of patients with metastatic ccRCC to anti-programmed death (PD-1) therapy.<sup>[7]</sup> The authors measured the expression of various immune-related genes and calculated immune scores to assess the immune cell infiltration in the tumor microenvironment. The authors identified a combinatorial biomarker comprising four genes (CXCL13, CXCL9, ICOS, and CD274) that could predict the response to anti-PD-1 therapy. Patients with high expression of all four genes had a 77% objective response rate (ORR) compared to 12% in patients with low expression of all four genes. The study also reported that patients with high tumor mutation burden (TMB) and low expression

of the vascular endothelial growth factor (VEGF) pathway had better outcomes to anti-PD-1 therapy, with a 73% ORR, compared to 27% in patients with low TMB and high VEGF expression. The study concluded that patients with a high expression of immune-related genes and high immune scores had significantly better outcomes with anti-PD-1 therapy than patients with low expression and scores.

### ARTIFICIAL SWEETENER: A NECESSARY EVIL?

The relationship between erythritol (a commonly used sugar substitute) and cardiovascular events (major adverse cardiovascular events [MACE], including death, nonfatal myocardial infarction, and stroke) was evaluated in recent research.<sup>[8]</sup> The study examined the levels of multiple polyol sweeteners, including erythritol, in patients undergoing cardiac risk assessment ( $n = 1,157$ ) and found that elevated levels of erythritol were associated with incident MACE risk over 3 years. Further analysis in stable patients (US:  $n = 2149$  and European:  $n = 833$ ) undergoing elective cardiac evaluation confirmed this association. Finally, a pilot intervention study in healthy volunteers ( $n = 8$ ) found that erythritol ingestion increased plasma erythritol levels well above the threshold associated with increased platelet reactivity and thrombosis potential. The association was independent of other cardiovascular risk factors such as age, sex, body mass index, smoking status, and physical activity. Limitations included observational study design limiting causality estimation, self-reported assessment of erythritol intake, and inability to distinguish between natural and artificial erythritol. The results warrant long-term safety evaluation of erythritol.

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