

analysis demonstrated that the AUA guidelines had a larger area under the curve than did the other guidelines.

Conclusion: The current AUA guidelines for the recommendation of staging bone scans had better prediction and application rates than other guidelines in our patient cohort.

**PD4-2:
BRACHYTHERAPY USING I-125 IMPLANT IN THE TREATMENT OF LOCALIZED PROSTATE CANCER: KFSYSCC INITIAL EXPERIENCE**

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Purpose: Brachytherapy with permanent implant of radioactive seeds is one of the first-line treatments of localized prostate cancer. In Taiwan, this treatment hasn't been provided in the past years. We conducted a Phase I clinical trial to observe if we can perform it in good quality.

Materials and Methods: The clinical trial was conducted in KFSYSCC. Inclusion criteria were: Patients with histologically confirmed, localized adenocarcinoma of the prostate, clinical stage T1c-2bN0M0, PSA \leq 20 ng/ml, Gleason Score \leq 7, Karnofsky Performance Status $>$ 70, No significant obstructive symptoms, No hip prosthesis, No prior transurethral prostate surgery, No prior chemotherapy or radiotherapy or hormonal therapy, prostate volume by trans-rectal ultrasound \leq 45 cc. Permanent implant of I-125 seeds with prescription dose of 145Gy were given under general anesthesia. PSA, IPSS score and IIEF score were recorded in 1, 3, 6, 9, 12 and every 6 months after treatment.

Results: From May 2013 to April 2014, a total of 11 patients received I-125 seed implant brachytherapy. Clinical stages were T1c, T2a, T2b in 3, 7 and 1 patients each. Gleason Scores were 3+3 in 9 patients and 3+4 in 2 patients. Pre-treatment PSA was less than 10ng/ml in 7 patients, and between 10-20ng/ml in 4 patients. Clinical risk groups were low-risk in 7 patients and intermediate-risk in 5 patients. Complications included 3 patients with transient urine retention. At 1 year after seed implant, PSA declined to $<$ 1, 1-2, $>$ 2 in 6, 2, 3 patients each. IPSS returned to baseline level in 6-9 months. IIEF returned to baseline level in 6 of 9 sexually active patients in 1 year.

Conclusion: Seed implant brachytherapy can be done in good quality for the treatment of prostate cancer in Taiwan.

**PD4-3:
THE SHORT-TERM EFFICACY AND SAFETY OF ABIRATERONE ACETATE WITH PREDNISONE IN METASTATIC CASTRATION-RESISTANT PROSTATE CANCER PATIENTS IN VGHTC**

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Purpose: To report short-term efficacy and safety of abiraterone acetate and prednisone in metastatic castration-resistant prostate cancer patients in VGHTC.

Materials and Methods: A total of 25 patients with metastatic castration-resistant prostate cancer who have progressive disease or have become intolerance while receiving docetaxel were treated with abiraterone (1000 mg, once daily) and prednisolone (5 mg, twice daily). Patients achieving a prostate-specific antigen (PSA) reduction \geq 50% were considered as PSA response, as COU-AA301 definition.

Results: There were 14 patients (56%) achieving PSA response, 6 (24%) having stable disease, and five (20%) PSA progression, respectively. The most common adverse event was hypokalemia (12%) and liver function abnormalities (12%). But hyperkalemia developed in two patients (8%). Grade 3/4 adverse event was observed in one patient (4%).

Conclusion: Abiraterone acetate with prednisolone is potentially a favorable treatment in patients with metastatic castration-resistant prostate cancer after treatment failure with docetaxel-based chemotherapy.

**PD4-4:
COMPARE PROSTATE CANCER DETECTION RATE BETWEEN 12- AND 18-CORE PROSTATE BIOPSY IN PATIENTS WITH NORMAL DRE AND SERUM PSA LEVEL OF 4.0-20.0 NG/ML**

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Purpose: To compare 12 and 18 core trans-rectal ultrasound (TRUS)-biopsy in patients with normal DRE (digital rectal exam) and PSA level of 4.0-20.0 ng/mL.

Materials and Methods: Between 2009 to 2014, 346 patients whose DRE were normal or rubber and serum PSA level between 4.0 and 20.0 ng/mL underwent TRUS biopsy. Of those patients, 318 underwent 12-core biopsy and 28 underwent 18-core biopsy. We compared the prostate cancer detection rates and post-biopsy complications rate between the two groups.

Results: The baseline characteristics of the two groups were comparable with regard to the mean age, prostate volume and PSA level, and PSA density. In the 12-core prostate biopsy group, 36 (11.3%) patients were found to have prostate cancer. On the other hand, in the 18-core prostate biopsy group of patients, 4 (14.2%) were found to have prostate cancer. There were no significant different prostate cancer detection rate between 12-core biopsy and 18-core biopsy group. Besides, in patients with PSA density (PSAD) $<$ 0.2, the prostate cancer detection rate was slightly higher in the 18-core biopsy group (14.3%) than in the 12-core biopsy group (9.6%), but not statistically significant. There was no significant difference complication rates as urinary retention or sepsis between the two groups.

Conclusion: We can't conclude that TRUS-guided 18-core biopsy of the prostate is superior to the 12-core in patients with normal DRE and serum PSA level of 4.0-20.0 ng/mL. Further studies in different population with greater sample size are needed to draw final conclusion.

**PD4-5:
TGF- β 1 MEDIATES THE RADIATION RESPONSE OF PROSTATE CANCER**

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Radiotherapy is the main treatment modality for prostate cancer. This study investigated the role of TGF- β 1 in biological sequelae and tumor regrowth following irradiation, which are critical for the clinical radiation response of prostate cancer. Human and murine prostate cancer cell lines, and corresponding hormone-refractory (HR) cells, were used to examine the radiation response by clonogenic assays in vitro and tumor growth delay in vivo. Biological changes after irradiation, including cell death and tumor regrowth, were examined by experimental manipulation of TGF- β 1 signaling. The correlations among tumor radiation responses, TGF- β 1 levels, and regulatory T cells (Tregs) recruitment were also evaluated using animal experiments. HR prostate cancer cells appeared more radio-resistant and had higher expression of TGF- β 1 compared to hormone-sensitive (HS) cells. TGF- β 1 expression was positively linked to irradiation and radioresistance, as demonstrated by in vitro and in vivo experiments. Inhibition of TGF- β 1 increased tumor inhibition and DNA damage after irradiation. When mice were irradiated with a sub-lethal dose, the regrowth of irradiated tumors was significantly correlated with TGF- β 1 levels and Tregs accumulation in vivo. Furthermore, blocking TGF- β 1 clearly attenuated Tregs accumulation and tumor regrowth following treatment. These data demonstrate that TGF- β 1 is important in determining the radiation response of prostate cancer, including tumor cell killing and the tumor microenvironment. Therefore, concurrent treatment with a TGF- β 1 inhibitor is a potential therapeutic strategy for increasing the radiation response of prostate cancer, particularly for more aggressive or HR cancer cells.