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### **Epididymal-Sparing Simple Orchiectomy in Stage IV Prostate Cancer**

**Introduction:** Permanent androgen deprivation therapy (ADT) through medical or surgical castration is fundamental for treating metastatic prostate cancer (mPCa). Therapy decisions may include demographic factors: including socio-economic status (SES), race, marital-status and vary depending on the surgical management presentation. Simple orchiectomy is offered to all men with mPCa utilizing an epididymal-sparing (ES) technique to maximally preserve the scrotal contents at our center. This study evaluates the safety and efficacy of ES orchiectomy compared to standard orchiectomy (SO) and analyzes demographic differences between our safety-net hospital practice and oncologic group to identify factors impacting patient decision making.

**Methods:** Retrospective review of patients undergoing surgical castration for mPCa between 2011-2022. Demographic data was utilized to determine average household income and distance to the hospital, while clinic and operative notes were reviewed for time of diagnoses, prior medical ADT and evidence of documented non-adherence, and operative complications. Most recent pre and post operative total testosterone (TT), prostate-specific antigen (PSA) and pathological specimens were reviewed as well.

**Results:** 101 patients underwent orchiectomy; 85 SO (81%) and 20 (19%) ES. Overall, 52 (52%) were ADT naïve and 66 (63%) had presented with de-novo stage IV disease. 9 of 49(18.4%) had medication adherence issues previously interrupting ADT. 20 men were castrate prior to orchiectomy. ES orchiectomy was more commonly performed in the group practice with insignificant differences in age, marital status, race, and previous non-adherence between the two practices. All men had castrate levels of TT (median 10; IQR 9, 19) with no difference between types of procedure ( $p=0.9$ ). The overall complication rate was 3.2% in the SO group and 0% in the ES group ( $p=0.99$ ). There were two Clavien II (wound infections) and one Clavien IIIb (return to OR for bleeding) complications.

**Conclusions:** ES orchiectomy is safe and effective for surgical castration. When considering ADT options for treatment of mPCA, ES orchiectomy may be offered as an alternative to medical therapy. The differences noted between patient characteristics in the two practices may suggest that the manner/technique of surgery offered may affect patients' willingness to strongly consider definitive ADT. Furthermore, age, race, marital status, or socioeconomic status does not accurately predict which patients are more willing to pursue surgery in the present study. Thus, in addition to prompt referral to oncologic specialists for advanced management, patients should be individually counseled on the pros and cons of definitive ADT, specifically if cost or possible difficulty with adherence may be factors.