INTRODUCTION

Background

- Testicular cancer is the most commonly diagnosed malignancy in males 18-35 years of age
- Up to 31% of palpable testicular masses and over 50% of those diagnosed on ultrasonogram alone may be benign at final pathology
- Partial orchiectomy (PO) is an attractive alternative to radical orchiectomy (RO) in patients with bilateral masses or a solitary testis, but outcomes are poorly defined and trends in the performance of PO are unreported
- To date, studies examining PO are small, retrospective and frequently focus on non-germ cell histologies

Objectives

- The primary objectives were to evaluate risk of positive margins and overall survival (OS) for PO versus RO
- Secondary objectives included evaluating the effect of positive margin status on survival and whether PO resulted in increased use of adjuvant therapies compared to RO
- Temporal trends, facility and patient-specific factors were also examined

METHODS

Patient Selection

- The National Cancer Database (NCDB) was queried for all patients ages 18-80 diagnosed with testicular tumors between 2004-2015
  - Inclusion Criteria
    - Receipt of either PO or RO
    - Metastasis-free
    - Post-orchiectomy tumor markers negative
  - Exclusion
    - Non-specific surgical codes that did not represent either of these modalities
    - MO status unable to be determined
    - Post-orchiectomy tumor markers unknown

Variables Examined

- Small Tumor size (STS): <30mm
- Margin status
- Receipt of adjuvant therapy
- Age
- Payer status
- Charlson/Deyo score
- Facility designation
- Histological patterns

Statistical Analysis

- Pearson’s Chi-Square to evaluate relationships between PO and RO and positive margin status or receipt of adjuvant therapy
- Multivariable logistic regression to evaluate effect of patient and facility-specific factors on likelihood of PO receipt
- Kaplan-Meier curves to estimate the primary outcome, OS
- Cox Proportional Hazards Regression to compare survival outcomes
- Linea-by-linear analysis to evaluate trends across time

RESULTS

Overall Survival

- Figure 1: Survival curves for all tumors based on surgical approach (a) or margin status (b)
- Figure 2: Survival curves for small (<30mm) testicular tumors based on surgical approach (a) or margin status (b)

Discussion

- PO demonstrated equivalent OS to RO when stratified by tumor size <30mm
- Positive margin status demonstrated decreased OS regardless of tumor size
- PO was not associated with the use of adjuvant therapy, regardless of histology
- PO was not more likely to be performed at an academic cancer institution and performance of PO has not increased with time

Conclusions

- Partial orchiectomy appears to be oncologically equivalent in an appropriately selected patient population
- Positive margins should result in completion radical orchiectomy due to worse outcomes in these patients
- Partial orchiectomy does not appear to result in increased utilization of adjuvant therapy
- Prospective studies are ideal, but unlikely
Research Methods

- A research proposal was submitted to the National Cancer Database (NCDB) detailing research questions and methodologies and accepted after being approved by the Commission on Cancer (CoC) chair at our tertiary care institution.

- The database was queried for all testicular tumors in males aged 18-80 between 2004-2015 undergoing either partial orchietomy (PO) or radical orchietomy (RO).

- Patients were selected if data was available regarding M0 status, tumor size and negative post-orchietomy tumor markers.

- Patients excluded if necessary data was unavailable or nonspecific.

- Factors investigated included tumor size, margin status, adjuvant therapy, age, Charlson/Deyo score, facility designation and histological patterns.