

COMPARISON OF SURGICAL OUTCOMES IN BENIGN PROSTATIC HYPERTROPHY MANAGEMENT USING THE NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM

Hypothesis / aims of study

Increasing surgical techniques are available to provide relief of prostatic obstruction from lower urinary tract symptoms in aging gentlemen. Single institutional data concerning complication rates for rare occurrences are unlikely to be drawn out. Therefore, to compare rates of surgical complications and readmission in management of benign prostatic hyperplasia, we queried the National Surgical Quality Improvement Database (NSQIP) for perioperative adverse events following transurethral resection of the prostate (TURP), laser photo-vaporization of the prostate (PVP), and simple prostatectomy.

Study design, materials and methods

Using the NSQIP database we identified TURP, PVP, and simple prostatectomy operations performed from 2010 to 2012 based on CPT codes 52601, 52648, and 55821, respectively. We examined multiple covariates to assess various perioperative outcomes, postoperative complications, and readmission rates.

Results

Data were grouped by procedure: TURP (N=6653), PVP (N=3274), and simple prostatectomy (N=343) in the NSQIP database. Comparing TURP to PVP, there were no significant differences in rates of readmission, surgical site infections, pneumonia, urinary tract infection, or sepsis. However, there was a higher rate of bleeding in TURP than in PVP (2.65% vs 0.73%, $p < 0.001$). Comparing TURP to simple prostatectomy, there was no significant differences in rates of readmission, pneumonia, urinary tract infection, or sepsis. However, simple prostatectomy came with risk of superficial, deep, and organ surgical site infections (2.62%, 0.87%, and 0.87%, respectively). Simple prostatectomy also had a higher rate of bleeding relative to TURP (22.16% vs 2.65%, $p < 0.001$). Comparing PVP to simple prostatectomy, there were no significant differences in rates of readmission, pneumonia, urinary tract infection, or sepsis. However, in addition to the risk of surgical site infections, simple prostatectomy also had a higher rate of bleeding (22.16% vs 0.73%, $p < 0.001$).

Interpretation of results

In comparison to both PVP and TURP, simple prostatectomy carries a higher risk of surgical site infections. This result was expected as simple prostatectomy is an open procedure whereas PVP and TURP are transurethral procedures. The same logic is applicable to the higher rates of bleeding. A potential confounder in this study is that simple prostatectomies are generally reserved for prostates too large to resect by PVP or TURP (approximately 100 grams or larger).

Concluding message

In a review of three years of NSQIP data, TURP has a higher rate of bleeding than PVP, but there were no differences in readmission or infection rates. Simple prostatectomies had higher rates of various infections as well as bleeding. Reserving simple prostatectomy for larger sized prostates may contribute to higher bleeding rates, but prostate size is not captured in the NSQIP database and thus this possible association could not be assessed.

Disclosures

Funding: NONE. **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** This is a quality improvement study utilizing a national database. The database itself does not include any identifiers for the participants included. **Helsinki:** Yes **Informed Consent:** No