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Indication for aquablation

Aquablation is a minimally invasive surgical procedure designed to treat urinary symptoms caused by benign prostatic hyperplasia (BPH), an enlarged prostate. This procedure uses a high-velocity water jet controlled by robotic technology to remove excess prostate tissue without using heat, which helps to preserve surrounding structures and minimize complications. Aquablation is particularly suitable for men with moderate to severe BPH symptoms who have not responded well to medication.

Alternatives

Several alternatives to Aquablation are available, depending on individual circumstances:

- **Transurethral Resection of the Prostate (TURP)**: A common procedure that uses a resectoscope to remove prostate tissue.
- **Holmium Laser Enucleation of the Prostate (HoLEP)**: Uses a laser to remove obstructive prostate tissue.
- **Prostatic Urethral Lift (PUL) Implants**: Inserts implants to hold the enlarged prostate away from the urethra.
- **Greenlight Laser Therapy**: Uses a laser to vaporize excess prostate tissue.
- **Prostate Artery Embolization (PAE)**: Reduces blood supply to the prostate to shrink it.
- **Water Vapor Therapy**: Uses steam to destroy prostate tissue.

Expected Perioperative Care and Stay

- **Preoperative**: You may need to stop certain medications and fast for a specific period before the surgery. An IV line will be placed in your arm for fluids and medications.
- **During Surgery**: The procedure is performed under general anesthesia and typically takes less than an hour. A robotic system is used to deliver a high-velocity water jet to remove the targeted prostate tissue.

- **Postoperative**: You will likely stay in the hospital overnight. A Foley catheter will be placed to help drain urine and will usually be removed within a few days.

Postoperative Effects

- **Short-term**: It is normal to experience burning and stinging during urination, blood in the urine, and frequent urination for a few weeks. You may also feel some discomfort in the pelvis.
- **Long-term**: Most men recover fully within a few weeks and experience significant improvement in urinary symptoms. You will be advised to avoid heavy lifting and strenuous activities for a few weeks.

Side Effects and Risks

- **Common Side Effects**: These are usually mild and temporary, including:
    - Mild pain or discomfort in the pelvis
    - Bleeding or blood in the urine
    - Burning sensation during urination
    - Frequent and urgent need to urinate
    - Temporary difficulty in emptying the bladder
- **Infection**: There is a risk of urinary tract infections (UTIs) which can be treated with antibiotics.
- **Retrograde Ejaculation**: Semen flows into the bladder instead of out through the penis during ejaculation, which is not harmful but can affect fertility.
- **Urinary Incontinence**: Temporary loss of bladder control, which usually resolves within weeks.
- **Bladder Spasms**: These can cause leakage around the catheter but are typically not a cause for alarm.
- **Reoperation**: In rare cases, additional surgical intervention may be required if symptoms persist or recur.

Main Benefits of Aquablation Over Traditional Surgical Methods

Aquablation offers several significant advantages over traditional surgical methods like Transurethral Resection of the Prostate (TURP) for the treatment of benign prostatic hyperplasia (BPH). Here are the main benefits:

1. Precision and Minimally Invasive Nature

Aquablation uses a high-velocity water jet controlled by robotic technology, guided by real-time ultrasound imaging. This allows for precise removal of excess prostate tissue without the use of heat, which minimizes damage to surrounding tissues and reduces the risk of complications.

2. Lower Risk of Sexual Side Effects

One of the most compelling benefits of Aquablation is its lower risk of sexual side effects compared to traditional methods. Studies have shown that the rate of procedure-related ejaculatory dysfunction is significantly lower with Aquablation (7%) compared to TURP (25%). This makes it a preferable option for men concerned about preserving sexual function.

3. Reduced Risk of Urinary Incontinence

Aquablation minimizes the risk of urinary incontinence, a common concern with traditional surgical methods. By avoiding thermal injury, Aquablation reduces the likelihood of damaging the sphincter muscles that control urinary function.

4. Effective for Larger Prostates

Aquablation has shown to be particularly effective for men with larger prostate volumes (≥ 50 mL). The reduction in International Prostate Symptom Score (IPSS) was greater in men with larger prostates treated with Aquablation compared to those treated with TURP. This makes Aquablation a versatile option suitable for a broader range of prostate sizes.

5. Shorter Hospital Stay and Recovery Time

Aquablation typically requires a shorter hospital stay and quicker recovery time compared to traditional methods. Most patients can leave the hospital the next day and often do not require a catheter for an extended period post-surgery.

6. Durable Long-term Outcomes

Long-term studies have shown that the benefits of Aquablation are durable. At five years, patients treated with Aquablation had sustained improvements in urinary symptoms and flow rates, with a lower rate of needing additional BPH treatments compared to those who underwent TURP.

7. Lower Complication Rates

Aquablation has been associated with lower overall complication rates. The rate of Clavien-Dindo grade 1 and grade 2 or higher complications was significantly lower in the Aquablation group compared to the TURP group. This contributes to a safer profile for Aquablation.

Conclusion

Aquablation is a novel, minimally invasive procedure offering significant relief from urinary symptoms caused by an enlarged prostate. While there are potential risks and side effects, most men experience substantial improvement in their symptoms and quality of life.