THE UROLOGY GROUP

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CRYOTHERAPY

With the increased use of abdominal imaging, about half of all **renal masses** are found incidentally when a study was done for another problem. Masses are therefore often found at a smaller size an earlier stage than in the past. In the past, this would require removal of the entire kidney or **nephrectomy**. It was then found to be safe to remove just part of the kidney for small masses with **partial nephrectomy**. Recently, the American Urological Association has approved additional therapies for renal masses such a **thermal ablation** and **surveillance**.

Thermal ablation and surveillance may be considered if a small renal mass is found in an elderly patient or a patient with multiple medical problems.

Thermal Ablation

There are two types of thermal ablation recommended today. **Cryotherapy** uses a gas to freeze the mass in the kidney. **Radiofreqency ablation** uses energy waves to heat and kill the mass. Both of these are administered by placing one or more thin probes into the mass. This can be done under imaging guidance (ultrasound, computed tomography, MRI), via laparoscopic surgery or open surgery. Biopsy of the mass is typically taken prior to thermal treatment.

Thermal ablation is minimally invasive and has a short recovery period. However, these therapies have not been studied as long as surgical removal, so the long term outcomes are unknown. Monitoring of the area of the mass with computed tomography or ultrasound is necessary.

Complications

The major urological complication rate for cryoablation was hemorrhage (4.9%). Other complications include complications from general anesthesia or positioning. Surveillance may require repeated imaging with contrast injection, which can decrease kidney function. Recurrence may require repeat treatment or surgery. Surgery may be more difficult due to reaction from the initial treatment.

Summary

Renal cryoablation may be a treatment option for patients at high surgical risk who want proactive treatment and accept the need for lifelong surveillance and the increased chance of recurrence compared to surgical removal.

Written by: Jennifer L. Young MD, The Urology Group. Copyright 2011.
Reference: Novick AC, Campbell SC, et al. Guideline for Management of the Clinical Stage 1 Renal Mass. American Urological Association Education and Research, Inc. 2009.