

Shands HealthCast - January 2008 Cryotherapy Treatment for Kidney Tumors

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Intro:

Welcome to another Shands HealthCast brought to you by Shands HealthCare. This podcast features a discussion about cryotherapy treatment for kidney tumors with University of Florida urologist Dr. Christopher Williams. Minimally invasive cryotherapy is a lower risk treatment alternative for kidney tumors. Patients who may benefit most are those who have medical problems that make traditional surgical options riskier for them. Dr. Williams sees patients at Shands Jacksonville. For more information about treatment of kidney tumors, call (904) 383-1016 or visit <http://jax.shands.org>.

Dr. Williams:

Cryotherapy is a means of freezing tumors for the purpose of treating cancer. It can be applied to numerous types of cancers, but in urology I apply them to the treatment of kidney and prostate cancers.

The mechanism of freezing is performed two times – it's called a freeze-thaw cycle. So we freeze the tumor, then we thaw it, and then we freeze it again, and then thaw it again. This process basically causes the cancer cells to break and over time it causes the tumor to shrink. We then look at MRI or CT scans to let us know that the treatment has worked.

Kidney tumors that are four centimeters or less are best suited to be treated this way. Tumors that are at the poles of the kidney; meaning that they are on either end of the kidney, at the top of the kidney or at the bottom of the kidney and are situated only on the outside of the kidney are best suited for this. However, kidney tumors that are buried deep within the kidney may also be treatable with cryotherapy, just not quite as easily.

One of the main benefits of cryotherapy for treating kidney masses, compared to open surgery, is that it can be done in a very minimally invasive fashion. What that means is we take small holes that we place in the body for the means of localizing the tumor and visualizing the tumors through those small holes. We can then place a little probe or needle that goes into the tumor and we can freeze it. Because the tumor is not being removed, we don't have to make an additional incision that's bigger to remove it, which often is necessary for laparoscopic partial nephrectomy. So in the end you have very small holes to heal, which is desirable from a cosmetic standpoint and leads to a less painful recovery.

There are very few instances where the tumor has been found to be regrowing after cryotherapy. From a cancer standpoint, the laparoscopic approach to cryotherapy for treating renal masses has been found to be very comparable to the outcomes reported after open partial nephrectomy, which is considered the gold standard, total nephrectomy (removal of the whole kidney), or other minimally invasive treatment options, like radiofrequency ablation.

How do we know that we treated all of the cancer or know that the whole tumor has been adequately treated? Starting three months after surgery, we get another CT or MR Scan. Tumors that are alive

normally take up blood supply and will light up, but things that are dead will not. When the tumor doesn't light up we consider it to have been adequately treated. We continue to follow the tumor with scans for many years to make sure that it does not show signs of regrowth. Initially, we get scans every three months, and then as time goes on, it's every six months and, ultimately, yearly.