St. Dominic’s 2017 Annual Cancer Report Outcomes
St. Dominic’s Cancer Committee monitors and ensures that patients treated at St. Dominic Hospital receive high quality care that is congruent with nationally accepted measures. To promote comparison and allow for monitoring, the Commission on Cancer (CoC) measures compliance with specific CoC reporting tools including the Cancer Program Practice Profile Reports (CP3R). Below is data for 2015 for one measure followed for breast cancer patients.

**Quality Measure:** Radiation is administered within one year (365 days) of diagnosis for women under the age of 70 receiving breast conservation surgery for breast cancer.

“St. Dominic’s Estimated Performance Rate for this measure for 2015 data is 98 percent with 49 cases falling within this measure. The required performance rate is 90 percent by the Commission on Cancer. Forty-eight patients were concordant, meaning treatment was administered or considered within 365 days as the measure requires.

One patient was non-concordant, meaning they did not meet this measure, and that patient refused.”
Monitoring Compliance with Evidence-based Guidelines

Each calendar year, the Cancer Committee designates a physician member to complete an in-depth analysis to assess and verify that Cancer Program patients were evaluated and treated according to evidence-based national treatment guidelines and is appropriate for AJCC stage or a appropriate staging system, including prognostic indicators. The analysis must aim to determine if the diagnostic evaluation is adequate and the treatment plan is concordant with a recognized guideline.

We reviewed all cases of renal cell carcinoma which were treated either surgically or with ablative techniques at our institution from 2015 through February, 2017. We sought to determine if a partial nephrectomy was being performed in appropriate patients with clinical stage I renal tumors according to the current NCCN Panel recommendations.

The NCCN Panel prefers surgical excision by partial nephrectomy for the management of clinical stage I (pT1a) renal masses, if technically feasible as determined by the urologic surgeon. Surgery by partial nephrectomy, whenever feasible, or by radical nephrectomy is the standard of care for clinical T1b tumors according to the NCCN Kidney Cancer Panel. Radical nephrectomy should not be employed when nephron sparing can be achieved. (1)

Overview

An estimated 62,700 Americans will be diagnosed with renal cancer and 14,240 will die of the disease in the United States in 2016. (2) Renal cell carcinoma (RCC) compromise approximately 3.8 percent of all new cancers with the medical age of diagnosis of 64 years. Renal cell carcinoma comprises 2.4 percent of all cancer related deaths. Approximately 90 percent of renal tumors or RCC, and approximately 80 percent of these are clear cell tumors. Analysis of the SEER database indicates renal cell cancer incidence has been rising on average 1.1 percent each year and death rates have been falling on average 0.7 percent each year from 2004 – 2013. (3) This phenomenon is explained by the increased number of renal cell tumors detected as a result of widespread use of noninvasive abdominal imaging modalities such as ultrasound, CT and magnetic resonance imaging. (4) There is an increasing trend toward use of nephron sparing surgery (NSS) and minimally invasive approaches as a result of downward migration of disease severity toward diagnosis of asymptomatic, incidental, smaller, and lower-stage lesions. (5)

Partial nephrectomy is performed more frequently for small, incidentally discovered, low-stage renal tumors. One should distinguish the imperative indications for NSS from the relative and elective indications. The main advantage of partial nephrectomy over radical nephrectomy is the avoidance of renal insufficiency; the major disadvantages include the possibility of local recurrence and perioperative complications.

According to Joniau, (6) standard indications for nephron sparing surgery fall into three categories: Absolute (or imperative), relative and elective.
Absolute indications include circumstances in which radical nephrectomy would render the patient anephric, with a consequent immediate need for renal replacement therapy. Patients with an anatomic or functionally solitary kidney, for example, have absolute indications for nephron sparing surgery. The majority of patients with bilateral renal cell carcinomas also have an absolute indication for nephron sparing surgery. As an attempt is made to preserve as much functional parenchyma as possible, bilateral partial nephrectomy is indicated when feasible, usually starting with the less-involved side. When a partial nephrectomy is not possible on one side, a partial nephrectomy and radical nephrectomy must be attempted, as separate procedures.

Relative indications include those in which the contralateral kidney has pre-existing renal disease or its future function is threatened. Patients who fall into this category might have conditions such as stone disease, chorionic pyelonephritis, renal artery stenosis, vesicoureteral reflux, chronic renal obstruction from congenital or acquired causes, or systemic diseases such as diabetes, hypertension and nephrosclerosis.

Elective indications include those patients who have small, localized (often incidental) tumors and a normal contralateral kidney. Studies showed that partial nephrectomy can achieve survival rates comparable to that a radical nephrectomy for low-grade, low-stage renal cell carcinoma tumors of a four centimeter in diameter or smaller, with only few local recurrences. Large tumors (greater than four centimeters), or those located centrally or in the vicinity of the renal hilus or pelvicalyceal system, can be managed by nephron sparing surgery in patients with absolute indications, but patients with these disease characteristics and elective indication should be selected very carefully. Data suggests that the results of nephron sparing surgery are less satisfactory in patients with tumors larger than 4 centimeter or multiple localized renal cell carcinomas. In those cases, radical nephrectomy is still the treatment of choice when there is a normal contralateral kidney. Some recent reports, however, suggest that nephron sparing surgery can be effectively and safely used to treat patients with tumors up to seven centimeters in diameter. (7)

A more recent study showed that among Medicare beneficiaries with early-stage kidney cancer, treatment with partial rather than radical nephrectomy was associated with improved survival. In this review of 7138 Medicare beneficiaries with early-stage kidney cancer, 1925 patients (27.0 percent) were treated with partial nephrectomy and 5213 patients (73.0 percent) with a radical nephrectomy. For patients with early-stage kidney cancer, treatment with partial nephrectomy was associated with a better overall survival with a predicated survival difference of 15.5 percentage points at eight-year follow-up. (8)
Study Results

In our records review, we identified 28 patients who underwent either surgery or local ablative therapy for renal tumors in 2015 and 27 patients who underwent surgery in 2016. Thus far, there are seven patients who have had procedures in 2017. Of the 28 patients who were reviewed in 2015, one patient did not meet criteria. This patient had stage IV urothelial cancer at diagnosis. Another patient who had initially undergone a partial nephrectomy eventually required a radical nephrectomy for a nonhealing urocutaneous fistula. A patient with bilateral renal cell carcinomas underwent cryoablation of two left renal masses in 2015. This patient returned in 2016 to undergo a right radical nephrectomy for a synchronous contralateral renal cell carcinoma.

Of the 27 patients who underwent procedures in 2016, two did not meet criteria. One of these had a nephroureterectomy for urothelial carcinoma and a second patient had stage IV chromophobe renal cell carcinoma with bone metastasis at the time of radical nephrectomy.

Of the seven patients reviewed in 2017, all have met the criteria of having clinical stage I disease confirmed to be renal cell carcinoma. Of these, a patient who had bilateral renal cancer and had undergone a left partial nephrectomy in 2016, returned in February, 2017 for a right radical nephrectomy. One of the patients who had a radical nephrectomy had two kidney cancers of different histology; a papillary (tubulopapillary) renal cell cancer and a clear cell renal cell cancer.

The histologic diagnoses are as follows: clear cell-38; clear cell (tubulopapillary) -2; cystic clear cell-1; clear cell with sarcomatoid features-1; papillary renal cell carcinoma-11; papillary (tubulopapillary)-1; chromohobe renal cell carcinoma-3; oncocytic renal cell carcinoma-2; no tissue diagnosis-1. In 1 patient, an isolated deposit of metastatic colon carcinoma was discovered within the primary clear cell carcinoma.

Of our 60 cases, 33 patients underwent a radical nephrectomy (one of whom had undergone a partial nephrectomy which was complicated by an urocutaneous fistula), and 26 patients had a partial nephrectomy. As noted earlier, one patient underwent cryoablation of two tumors within the left kidney prior to returning for a right radical nephrectomy for contralateral disease.

In reviewing operative notes, pathology reports, history and physicals and discharge summaries the reasons for performing a radical nephrectomy as opposed to partial nephrectomy were generally clearly stated. The primary reasons for performing a radical nephrectomy as opposed to a partial nephrectomy included centrally located tumors, tumors which approximated the renal hilus, multifocal tumors, or tumors in which a clear surgical margin could not be obtained.

All 26 patients who underwent partial nephrectomy had pathologic stage pT1apNx tumors (tumor four centimeters or less in greatest dimension, limited to the kidney). There were 42 patients who had pT1apNx disease in our study cohort.

In conclusion, this study confirms that for patients with stage I kidney cancer treated in our facility, surgical practice patterns are consistent with nationally recognized standards.


