

# Pico paper

[Science](#), [Epidemiology](#)



Are kidney patients who received a radical nephrectomy at a higher risk of impaired renal function and cardiac related death compared to those who received a partial nephrectomy? Kiara Wilson Nursing 3163 Dr. Linda Upchurch November 12, 2012

**Background** Are kidney patients who received a partial nephrectomy at a lower risk of impaired renal function and cardiac related death compared to those who received a radical nephrectomy? When a patient is diagnosed with kidney damage, a surgical nephrectomy is often performed. Kidney damage may be caused by blocked blood vessels, kidney stones, masses, infection, and/or kidney cancer.

With this procedure the kidney damage may be treated and also prevent further damage. A partial nephrectomy is a surgical procedure to remove a portion of the kidney. Partial nephrectomies are normally done laparoscopically with hand assistance or with robot assistance. A radical nephrectomy involves removing the kidney and the adrenal glands. A radical nephrectomy may be done laparoscopically or by open abdominal surgery. My patient was diagnosed with damage of the left kidney. Blood tests were performed and the patient was found to have a toxic WBC granulation. This toxic granulation led infection, inflammation and sepsis.

An abdominal and pelvic CT scan found a 7.8 x 5.6 x 6.2 cm, solid, enhancing left lower pole renal mass and parasitic vessels in the infected area. A hand assisted partial laparoscopic nephrectomy was performed. They removed the lower portion of her left kidney. The kidney was to be tested for malignancy. The concern with my patient is that she has a past medical history of hypertension, anemia, and deep vein thrombosis. She is at an increased risk of further cardiac and renal complications. I believe these

factors influenced the doctors' decision to perform a partial nephrectomy instead of taking the radical approach.

To find research on this kidney condition, I accessed the Galileo database. I searched for information on ways to treat renal masses and kidney cancer. I found multiple articles about laparoscopic and radical (open) nephrectomies. I found many articles that discussed the differences between the two and the affects they have on patients who receive them. I found an interesting study called " Partial Nephrectomy Is Associated with Improved Overall Survival Compared to Radical Nephrectomy in Patients with Unanticipated Benign Renal Tumours. I found it interesting because it was relevant to the health issues that were being addressed with my patient. There are millions of kidney patients who undergo these procedures each year. I wanted to discover which procedure provided the best outcome for my patient and others with similar kidney problems. Purpose According to this study, " a partial nephrectomy has been associated with improved overall survival in patients with localized renal masses compared to those who received a radical nephrectomy" (Weight, 2010).

The purpose of this study is to test the overall survival rate of patients who had unanticipated renal masses. Another objective of this study is to also study the effect of these procedures on cardiac specific survival rates and other causes of death related to decreased kidney function. Hypothesis The hypothesis for this study are that the use of partial nephrectomies would be first line of treatment compared to radical nephrectomies in that partial nephrectomies provide better protection of renal function. Decreased renal function will lead to a low survival rate.

Patients who undergo radical nephrectomies will have higher rate of cardiac related deaths Design A seven year, nonrandomized study was conducted using 499 participants. Of these 499 participants, 111 patients had received a radical nephrectomy while 388 patients received a partial nephrectomy. The choice of which surgery to do was left of the surgeon and the patient's preferences. They took into consideration the mass size, the appearance, the patient's current health, life expectancy and the comfort of the surgeon in making their decisions.

The patient's comorbidities were assessed using the Charlson-Romano Comorbidity Index. Each patient's vital signs were acquired using the Social Security Death Index. Anyone without a Social Security Number was excluded. The cause of death information from the patients' medical records was reviewed. From there the participants were further categorized by the condition that caused the death. Cardiac deaths ranged from death related to ischemic heart disease, CHF, ischemic stroke, myocardial infarction, ischemic stroke, and peripheral vascular disease.

Renal deaths were broken down into death related to renal failure, renal insufficiency, or nephritic syndrome. All other possible causes of death were group together. Perioperative, postoperative data and renal function tests were collected before and after the procedures. Preoperative data was used to create the propensity model that was utilized in a multivariate model of survival. They measured the overall survival rate of the participants and cardiac specific survival rates. Findings Radical nephrectomies are greatly associated with an increased risk of death from any cause.

Patients with unanticipated benign tumors that were treated with RN were more likely to die from any related health problem than those treated with PN. Participants who received a radical nephrectomy were more likely to be older, with high comorbidity scores, and larger tumors. Those with smaller masses and tumors were more likely to have a partial nephrectomy. Radical nephrectomies are associated with an increased risk of death by 2 folds from any cause. The risk of cardiovascular death was substantially higher in those with decreasing post-operative renal function.

Decreased kidney function was related to an increase in cardiovascular death and death from any other cause in overall majority patients. Sixteen participants died of cardiac related deaths. Renal preservation was increased in the group that had the partial nephrectomy with majority of the patients having an eGFR above 60 %. Radical nephrectomy participants only had an eGFR of 30 % or lower. The higher eGFR is associated with an increase chance of survival in PN patients. Discussion Previous studies indicate that postoperative impaired renal function plays a role in the overall survival of patients with renal masses.

The data concluded that no matter which surgery was performed there would be a decrease in kidney function. However, those patients who received a PN had a remarkable lower decrease in renal function. It can be stated that patients have decreased function are at an increased risk of cardiac related death and death by other causes. For many of those who don't die from cardiac related death it can be concluded that other conditions that cause death are worsened by renal insufficiency. This study was relevant to the PICO question I asked.

This study answered my question and provided the information necessary to make it a valid question. I believe the limitations to this study are that the researchers did not randomize their study. They picked which participants they thought would influence their study. The strengths of this article are that it discusses the importance of preserving renal function when performing a nephrectomy. It also provides evidence that patients should be educated on the risks of death and further complications associated with their procedures. It could allow for better planning and managing of the care for these patients.

Implications As a nurse it would be my responsibility to be knowledgeable about procedures such as these and how they will affect my patient. It would be my job to educate the patients on what to expect from this surgery and what it means for their health. I could also use this information to better assess patients before and after these procedures. This research provides material that could be used to better treat and prevent life threatening conditions that could arise after surgery. References Landman, D. (2006). Open Partial Nephrectomy.

Retrieved November 9, 2012, from Kidney Cancer Institute: [www.kidneycancerinstitute.com/open-partial-nephrec.html](http://www.kidneycancerinstitute.com/open-partial-nephrec.html) Landman, D. (2006). Open Radical Nephrectomy. Retrieved November 9, 2012, from Kidney Cancer Institute: [www.kidneycancerinstitute.com/open-radical-nephrec.html](http://www.kidneycancerinstitute.com/open-radical-nephrec.html) Weight, C. J. , & Leiser, G. (2010, April 29). Partial Nephrectomy Is Associated with Improved Overall Survival. EUROPEAN UROLOGY, 58, 293-298. Evaluation (to be completed by instructor)| Possible Points| Actual

Points| Introduction of clinical problemComments:| 20| | Purpose/Aim of the study/articleComments:| 10| |

Theoretical framework of the study/articleComments:| n/a| |

Hypotheses/QuestionsComments:| 5| | DesignComments:| 5| |

FindingsComments:| 10| | DiscussionComments:| 25| |

ImplicationsComments:| 20| | ReferencesComments:| 5| | Grade| 100/100|

/100| PICO Paper Grading Rubric (submit, along with PICO OAT form, with

your paper) Student Name: \_Kiara Wilson\_\_\_\_\_Date: November 12,

2012\_\_\_\_\_ Are kidney patients who received a radical nephrectomy

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