

3rd ANNUAL KIDNEY CONGRESS & 16th International Conference on NEPHROLOGY & THERAPEUTICS

October 19-20, 2018 | New York, USA

Nephrectomy for calculous disease: Analysis of United States trends and outcomes from 2001 to 2014

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Since the advent of non-invasive techniques, the utilization of simple nephrectomies for the calculous disease has not been characterized. This study sought to investigate the United States nationwide trends in the use of simple nephrectomy for calculous disease from 2001 to 2014 using the Nationwide Inpatient Sample databases. Adults hospitalized with a principal diagnosis of kidney or ureteral stones that underwent nephrectomy during hospitalization were identified along with those hospitalized for kidney or ureteral stones that underwent inpatient surgery other than nephrectomy. Cochran-Armitage trend tests were used to identify nephrectomy as a proportion of all surgical interventions for calculous disease. Chi-squared and Wilcoxon rank sum tests were used to analyze patient characteristics, hospital type and region, perioperative outcomes, and complications of nephrectomies versus other procedures for the calculous disease. Our analysis showed an overall decrease in the percent of simple nephrectomies for calculous disease during the 14-year period. Additionally, complication rates for calculous nephrectomy varied based on hospital type with rural teaching hospitals having the highest rates at 45.9% and non-teaching hospitals with the lowest at 35% ($p < 0.0001$ for all), possibly due to better outcomes in higher volume hospitals. Hemorrhage was the most common complication of calculous nephrectomy compared to UTIs being the most common complication for other inpatient stone surgeries. The median length of stay decreased over time from 5 days in 2001 to 4 days in 2014 ($p < 0.0001$). Lastly, nephrectomies for the calculous disease were more frequently performed in females in the South and Western regions of the USA and in urban teaching hospitals.

Biography

Sairamya Bodempudi graduated Summa Cum Laude from the School of Arts and Sciences Honors Program at Rutgers University with a degree in Cell Biology and Neuroscience. She is currently an MD candidate at Rutgers Robert Wood Johnson Medical School in Piscataway, New Jersey and is expected to graduate in May 2019. She is an active member of her medical school and serves on the executive board for multiple organizations. She is passionate about research and was awarded the Rutgers Robert Wood Johnson Summer Research Fellowship the summer after her first year of medical school.

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