

Trends in the Use of Laparoscopy for Surgical Treatment of Renal Tumors in Italy: Data from the Piedmont Region in the Last Decade

Introduction and Objectives: Recent international guidelines for renal cell carcinoma (RCC) recommend the use of laparoscopic partial nephrectomy (LPN) in centres with laparoscopic expertise. When radical nephrectomy is indicated, it should be performed with a laparoscopic approach whenever possible. We evaluated trends in the use of LPN and laparoscopic radical nephrectomy (LRN) during the last decade in a north-western Italian region.

Materials and Methods: The regional archives of hospital discharge records in Piedmont region from 2000 to 2010 were retrospectively analyzed. All procedures recorded with the ICD-9 codes 55.3, 55.4 (PN) and 55.5 (RN) performed for a primary diagnosis of renal tumor (189.0) were included in the analysis (n=6180). Laparoscopic cases were identified by the ICD-9 code 54.21. The 43 institutions where the surgeries were performed were stratified according to academic status and hospital nephrectomy volume (high >300, intermediate 100-300, low <100 nephrectomies in the study period). Trends in the use of LPN and LRN over time were assessed overall and according to institution type.

Results: The overall rate of laparoscopic procedures for renal tumors performed in Piedmont increased from 2000-2 (8.8%) to 2008-10 (16.1%). The rate of LPN and LRN increased from 12.9% to 20.8% and from 7.6% to 14.5%, respectively. Overall, the increased use of laparoscopic procedures was more significant in academic centres (+14.5%) and in institutions with high renal surgical volume (+9.9%) (Figure) and was more evident in the last 5 years.

Conclusions: The use of both LRN and LPN for renal tumors has increased in Piedmont in the last decade. This trend is largely driven by wider indications to laparoscopic procedures in academic and high renal surgical volume institutions, while the overall use of laparoscopy remain lower than expected, suggesting the need of strategies to increase the availability of minimally invasive approaches in our region.

