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Operative vs Nonoperative Management of Complicated Appendicitis: A National Analysis

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INTRODUCTION: The optimal management of acute complicated appendicitis continues to be debated. The objective of this study was to compare outcomes between operative and nonoperative management of acute complicated appendicitis using a large national database.

METHODS: The Nationwide Inpatient Sample database (2009-2014) was reviewed for acute complicated appendicitis cases, stratified by presence or absence of an abscess. Demographics and outcomes were analyzed based on operative vs. nonoperative management by age group, pediatric, adult or elderly. Primary outcome measurers included risk-adjusted in-patient morbidity and mortality. Secondary outcome measurers included risk-adjusted length of stay (LOS) and total hospital charges.

RESULTS: We examined 77,637 acute complicated appendicitis cases, including 31,361 (40.4%) cases with abscesses and 26,276 (59.6%) cases without abscesses. For cases with abscess, there was no difference in morbidity or mortality between operative and non-operative management; however, operative management was associated with increased hospital charges in adults and decreased LOS across all age groups. For complicated appendicitis cases without abscess, operative management was associated with decreased morbidity in pediatric patients; decreased mortality in adult and elderly patients; increased hospital charges in pediatric patients, but decreased hospital charges in adult and elderly patients; and decreased LOS across all age groups.

CONCLUSIONS: For acute complicated appendicitis with abscess, operative management is associated with decreased LOS. In cases without abscess, operative management is also associated with decreased mortality in adults and elderly patients.