

TITLE:
RENAL TRAUMA IN PEDIATRIC PATIENTS TRANSFERRED TO TERTIARY CARE CENTER

CATEGORY: Pediatric Urology

INTRODUCTION AND OBJECTIVE:

The pediatric population is at greater risk of kidney injury during trauma when compared to adults, likely due to their unique anatomy. Patients with severe kidney injuries who present to rural hospitals often need transport to tertiary trauma centers. The purpose of our study is to describe the procedures and outcomes of patients who were transferred from an outside hospital versus those who were initially seen at the tertiary center.

METHODS:

We performed a retrospective chart review of patients age 0-18 years who were seen at a tertiary pediatric hospital for renal trauma. Demographic variables including age, gender, trauma etiology, transfer status, and preexisting genitourinary history were collected. Clinical outcomes collected included clinical complications, number of follow-up visits, long term sequelae, and imaging techniques used. Statistical analyses using Fisher's Exact and Kruskal-Wallis tests were performed.

RESULTS: We identified 35 patients who met inclusion criteria, 26 of whom were transferred. There was no difference in: diagnostic imaging used ($p=0.64$), repeat images ($p=0.55$), immediate complications ($p=0.30$), follow-up ($p=0.10$), or number of follow-ups ($p=0.31$) in transferred vs. patients presenting directly. Average time between injury and tertiary center travel time was 2.6 hours for direct presentation and 9.8 hours for transferred ($p=0.006$). We identified 13 patients who were transferred from an outside hospital <50 miles from the tertiary care center and 13 patients ≥ 50 miles. Between these groups, we found no significant differences in long-term complications ($p>0.99$) or follow-up ($p>0.99$). Immediate complication rates were non-significantly greater in patients transferred from ≥ 50 miles away when compared to those transferred from <50 miles away (risk difference: 0.3, $p=0.16$).

CONCLUSIONS:

Overall, patients who were transferred to a tertiary care center did not significantly differ in incidence of repeat imaging, follow-up, or complications compared to those presenting directly. When comparing patients who transferred <50 miles versus ≥ 50 miles, those who transferred from further away had more immediate complications, although this was not significant. Future studies should be conducted to establish standardized procedures regarding renal trauma management of patients being transferred to tertiary care centers. to optimize rates of re-imaging, complications, and mortality.

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