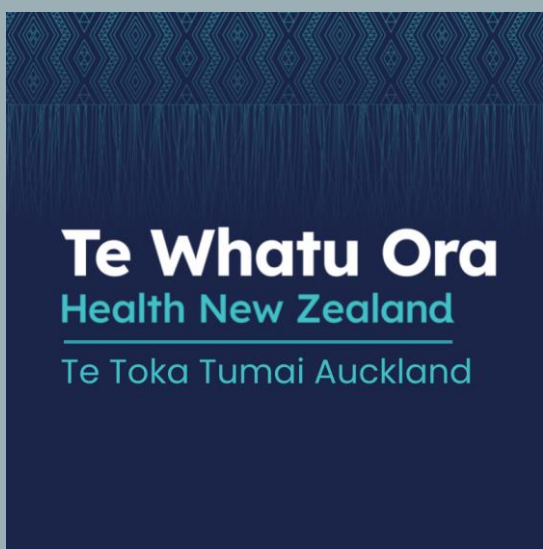


Rate of Intervention Following Major Renal Trauma in Auckland City:A 5-Year Retrospective Study



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Introduction

Renal Trauma is seen in up to 5% of all trauma cases¹. There is a trend towards conservative and minimally invasive management of renal trauma in guidelines internationally², however, there is limited evidence on the epidemiology and rate of intervention of Major Renal Trauma in the New Zealand population.

Aims

To investigate the rate of intervention following major renal trauma in Auckland City over a 5-year period.

Methods

A retrospective analysis was conducted on patients with major renal trauma (defined as AAST³ Grade III or higher) who were admitted to hospitals in Auckland City between January 2017 and December 2021. The Primary Outcome was the rate of intervention (Radiological or Surgical).

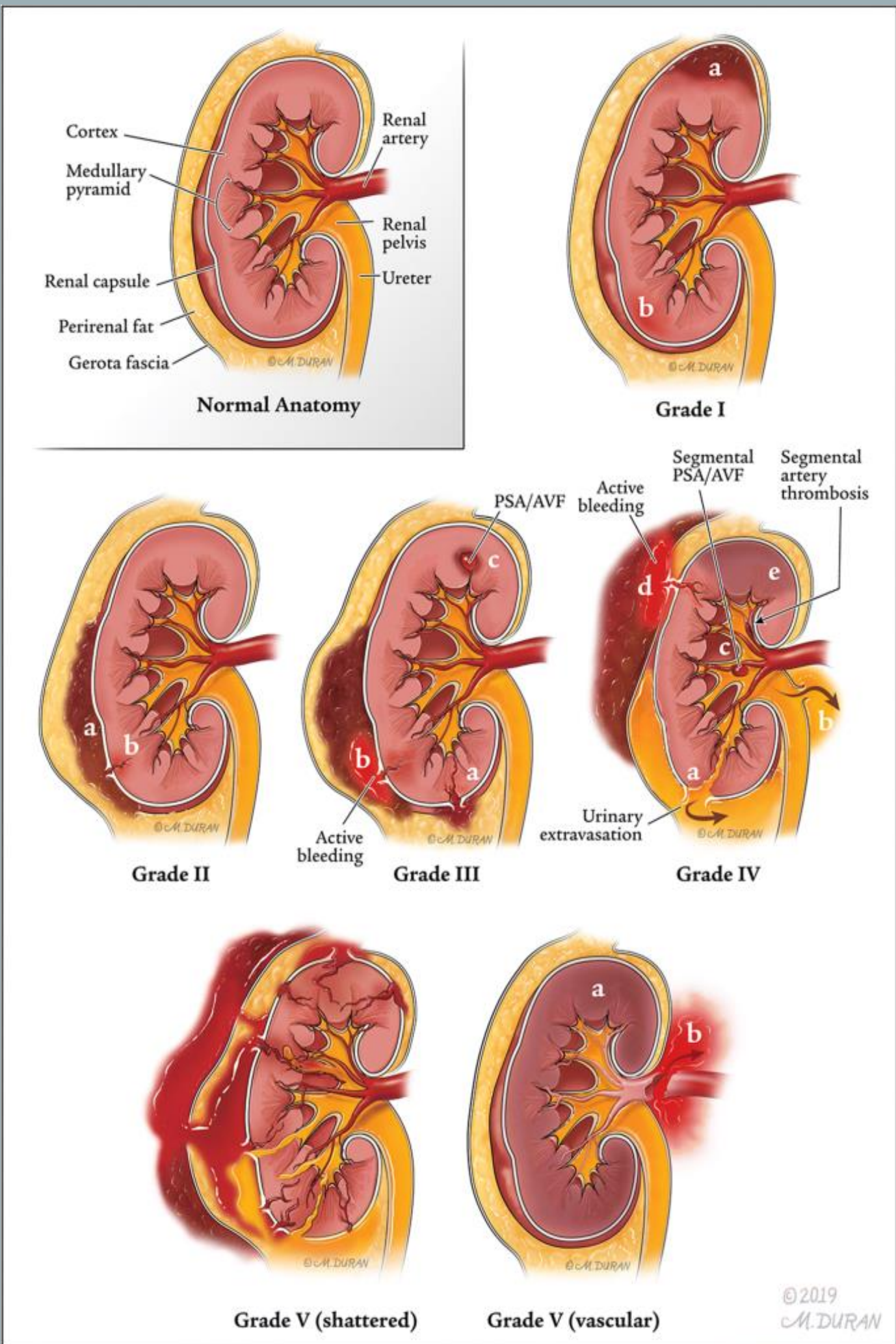
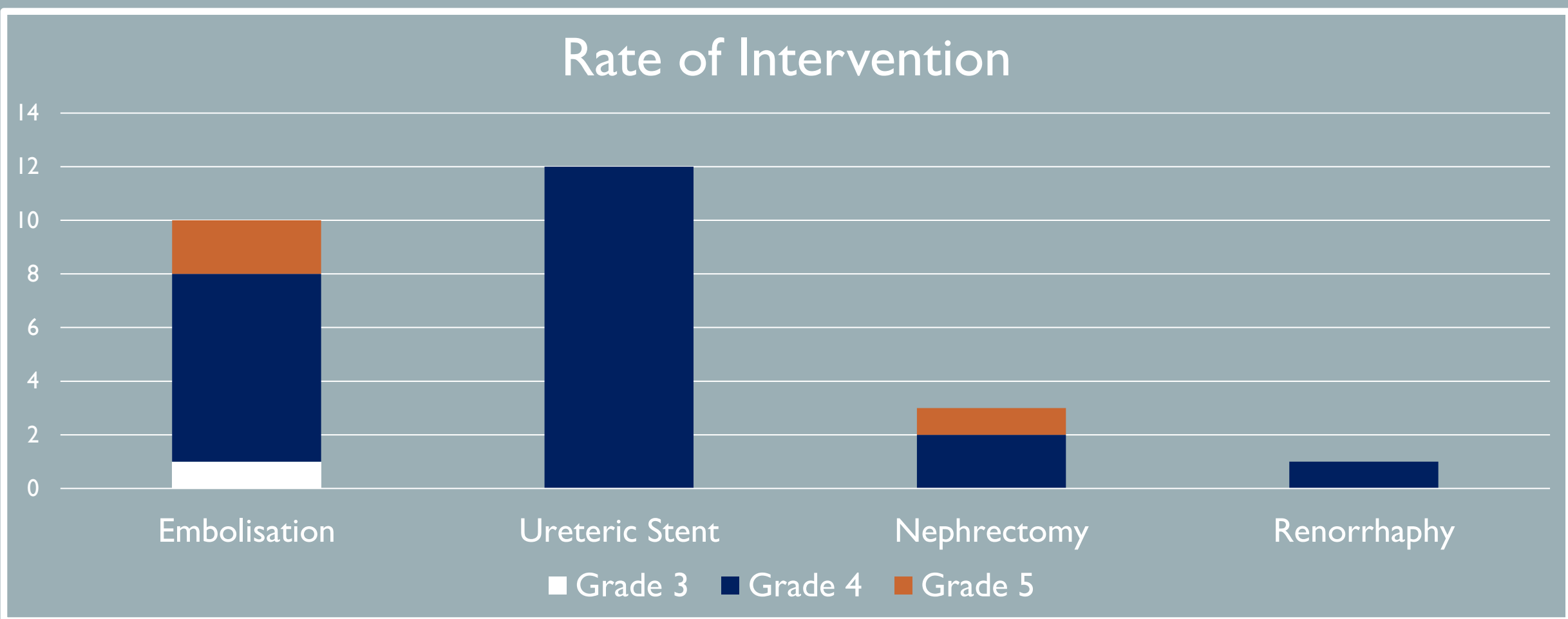
Secondary outcomes included 90-day mortality, transfusion requirement, length of stay, and other injuries.

Results contd.

Overall 26 patients (33.8%) required surgical or radiological intervention, In sub-group analysis the rate of intervention was 2.6%, 62.9% and 75% for Grade III, IV and V injuries respectively.

A statistically significant association between grade and rate of intervention was found (OR 62.6 and 111.0 for Grade IV and V), however both had very large confidence intervals indicating the strength of association is likely inaccurate.

Ureteric stent insertion was most common (15.6%), and the mean time to intervention was 15.9 hours +/- 8.9.

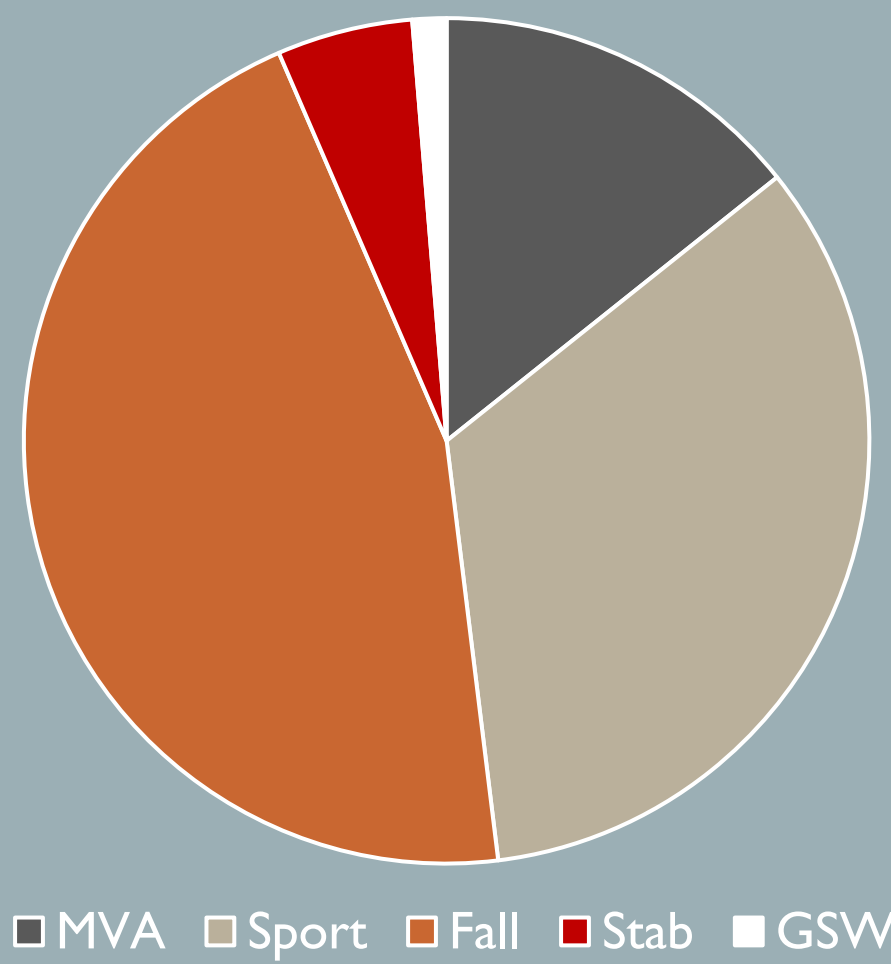


Results

77 patients with major renal trauma were admitted during the study period. The median age was 34 years and 85.7% were male. Approximately 2/3 of patients were primarily under a Urology service, the remained were under General Surgery (or Trauma). Of note, all Grade V injuries were primarily under General Surgery.

Majority of cases were the result of blunt trauma (93.5%). Falls (45.5%), Sporting activities (33.8%) and Motor Vehicle Accidents (14.3%) were the most common mechanisms.

Mechanism of Injury



Overall 90-day mortality was 2.6%.

Patients who underwent a procedure did not have a statistically significant increase in mortality or length of stay.

32.4% of patients had other injuries. Rib fractures (20.8%) were most common. Adrenal (6.5%), splenic (6.5%) and liver (5.2%)

Discussion

There is just over 1 admission/month for Major Renal Trauma in the Auckland region, and these patients are managed under both Urology and General Surgery (or Trauma) teams.

Almost 2/3 of patients with Grade IV injuries, and ¾ of those with grade V injuries require intervention (primarily Stent insertion or Embolization) and these interventions predominantly occur within 24 hours of admission. Majority of cases are the result of blunt trauma, and are commonly associated with other injuries.

Given the high rates of early intervention and the rate of concomitant injuries, an inter-disciplinary approach is important in managing our patients with Major Renal Trauma. Early discussion or transfer to centres with both Urology and Interventional Radiology should be considered.

Larger studies are required to demonstrate the true rate of Intervention in this patient group.

References

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