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Predictors for spontaneous stone passage in patients with ureteral calculi at Emergency Department

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Objective: To determine factors predicting spontaneous stone passage for patients presenting with ureteric colic at Emergency Department of a tertiary care hospital.

Methods: We retrospectively reviewed the patients record of ureteric stone presented in ER from January 2011 to December 2012. Patient's characteristics including demographics presentation, clinical factors, laboratory factors, Radiological factors and management were assessed from the medical records. Categorical variables described in terms of frequencies and percentages, continuous variables described in terms of mean and standard deviation. Data was analyzed using SPSS 21.

Results: The number of patients in whom ureteral stones passed spontaneously with medical expulsion therapy was 199 (52.9%) of the total 376 cases. There were no significant differences in age, gender, BMI, urine RBC or neutrophil between the groups (intervention vs No intervention), the only significant difference was in stone location, size, hydronephrosis. All the stones >1 cm required intervention. Total intervention for ureteric stone is 142 (20.5% in ER and 79.5% Elective). The most common site for stone impaction in ureter at proximal (23%), distal (32%) and UVJ (35%). Most Intervention was done for proximal ureter stone (53.52%). Medical expulsive therapy is effective for distal and UVJ stones.

Conclusion: At emergency department presentation for colic most stones were at the ureterovesical junction, distal and proximal ureter. Clinical, laboratory, and imaging predictors are factors that can help physicians taking the correct decision. This study provides the importance of stone Size, Site and Hydronephrosis in prediction of spontaneous stone passage and valuable clinical tool in everyday practice.