**External validation of the CHOKAI score in predicting ureteral stones in United Arab Emirates: A prospective multicentric observational study**

Mohammad A Rehman1, Tasnim Ahmed2, Ahmed AlZaabi3, Muneer Al Marzooqi4, Mansoor Husain4, Rauda AlNuaimi2, Abdulrahman Alzaabi2, Saleh SA Fares5, Fikri Abu-Zidan6

Affiliations:

1. Accident & Emergency - Mediclinic City Hospital, Dubai, UAE

2. Emergency Department – Zayed Military Hospital, Abu Dhabi, UAE

3. Emergency Department – Sheikh Shakhbout Medical City, Abu Dhabi, UAE

4. Emergency Department – Tawam Hospital, Al Ain, UAE

5. Department of Health, Abu Dhabi, UAE

6. The Research Office, College of Medicine and Health Sciences, UAE University, Al-Ain, Ain, United Arab Emirates

**Background:** The CHOKAI and STONE scores were developed to predict ureteral stones as a cause of renal colic. To our knowledge, no studies validated these scores in the Gulf area.

**Aim:** To compare the diagnostic accuracy of the CHOKAI and STONE scores in predicting the presence of ureteric stones in acute renal colicin the United Arab Emirates

**Methods:** This is a prospective multicentric observational study performed between January 2021 and March 2022, including patients presenting with renal colic who aged >16 years. Data needed to calculate the CHOKAI and STONE scores were collected prospectively. All patients had non contrast CT scan directly following the data collection. The patients were divided into two groups. Those with ureteric stones and those without it. A Receiver Operator Curve and its coordinates were used to define the area under the curve (AUC) and the best cut off point for predicting the ureteric stones for each of the two scores.

**Results:** 92 patients were included in the study, 70 had ureteral stones. AUC of the CHOKAI score was 0.85. The best cut-off point of CHOKAI was 7 having a sensitivity of 0.87, a specificity of 0.73, a positive LR of 3.19, and negative LR of 0.178. AUC of the STONE score was 0.8. The best cut-off point of STONE score was 5 having a sensitivity of 0.83, a specificity of 0.64, a positive LR of 2.78, and negative LR of 0.27.

**Conclusions:** The CHOKAI score is a good and better predictor of the presence of ureteric stones than STONE score in patients presenting with acute renal colic in the UAE population.

**Key words:** Ureteric stone, prediction, score