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Letter to Editor

The Authors' Reply

Dear Editor

We would like to address the letter critiquing our article entitled "Clinical Efficacy of Intravenous Papaverine Plus Ketorolac in the Emergency Treatment of Renal Colic: A Randomized, Double-blind Clinical Trial", which was published in your esteemed journal (Vol 49, No. 11, November 2024). We appreciate the thoughtful comments provided in the letter and are grateful for the opportunity to respond to the points raised.

Regarding the first and second points, concerning the choice of imaging modalities for diagnosing renal stones, we would like to emphasize that imaging is indeed the cornerstone of diagnosing ureteral obstruction and kidney stones. Available imaging modalities include abdominal radiography, ultrasound, or computed tomography (CT) scans. Non-contrast CT scans are considered the gold standard for diagnosing urinary stones in a patient with acute flank pain.[1] This modality allows for direct visualization of the stone, enabling accurate determination of the number of stones and the precise size measurements, which are critical factors in patient management. For instance, stones less than 5 mm in diameter pass spontaneously in 68% of cases, while the likelihood decreases to 47% for stones measuring 5-10 mm. Larger stones typically require intervention.[2] In addition to directly visualizing stones, non-contrast CT scans can assess the severity of obstruction through indirect signs such as hydronephrosis, perinephric edema, and periureteral edema. They can also detect signs of infection, which are crucial for guiding treatment.[3]

To identify the presence and location of ureteral obstruction, an intravenous urography can be used. Although this method has largely been replaced by CT spiral imaging, it may still play an important role in emergency settings where access to CT is limited. Studies comparing CT scans with intravenous urography have shown that CT is faster, more cost-effective, and more accurate.[4]

The prominent role of CT scans, as the imaging modality of choice, for diagnosing and evaluating renal colic is well established. Modern spiral CT scanners allow for rapid imaging without the need for contrast agents and with moderate radiation doses. The preciseness and sensitivity of CT scans for detecting renal stones were excellent, with reported values of 94-98% and 94-100%, respectively.[5]

CT scans are considered the definitive imaging test for confirming the diagnosis of ureteral stones. They also provide valuable information about other intra-abdominal structures, which is particularly useful when evaluating abdominal or flank pain in the absence of stones. However, there is some debate regarding the use of CT scans for evaluating and managing kidney stones. For example, avoiding the need for additional flat-plate scans saves time and resources for both patients and healthcare facilities. The sensitivity of scout films for detecting stones ranges from 17% to 47%, which is significantly lower than that of abdominal radiography.[6]

In response to the third and fourth points regarding the variability in patients' responses based on stone size and number, it should be clarified that the primary focus of this study was to compare patients' responses to two defined analgesic treatments, namely ketorolac alone versus a combination of ketorolac and papaverine. The two groups, which were randomly selected, were comparable in terms of stone size, number, and other related factors. Therefore, this research specifically compared the analgesic efficacy of these treatments in patients with kidney stones, with particular attention to how stone location could influence treatment response. To maintain the study's focus and avoid introducing confounding variables, other factors such as stone size and number were not included in the analysis.

Furthermore, in accordance with the exclusion criteria of the study, patients who required surgical intervention based on stone size, number, or other reasons were excluded from the study population.

Lastly, we sincerely appreciate the valuable suggestions provided in the letter for future research. These insights will undoubtedly contribute to the design of more comprehensive studies in this field.

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