Editorial

J Korean Soc Radiol 2023;84(3):663-665
https://doi.org/10.3348/jksr.2023.0058
eISSN 2951-0805

JOURNAL of THE KOREAN SOCIETY of RADIOLOGY

Structured Reporting for Pediatric Appendiceal US: Can It Reduce CT Utilization Rate and Decrease the Negative Appendectomy Rate?

소아 충수 초음파에서 구조화 판독문: CT 사용과 음성 충수 절제술을 줄일 수 있을까?

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Received May 19, 2023
Accepted May 19, 2023

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See the article *"Added Value of Structured Reporting for US of the Pediatric Appendix: Additional CT Examinations and Negative Appendectomy"* in volume 84 on page 653 (https://doi.org/10.3348/jksr.2022.0027).

Acute appendicitis is the leading cause of pediatric abdominal pain and requires acute abdominal surgery. US is the first imaging modality for the diagnosis of appendicitis in children (1). Although US is non-invasive and lacks ionizing radiation, the interpretation of US images can be subjective, with a risk of misdiagnosis of presumed appendicitis or perforated appendicitis due to a delayed diagnosis. This can result in unnecessary CT scans and/or negative appendectomies, which can increase radiation exposure and healthcare costs, respectively.

Structured reporting is an emerging technology that improves the accuracy and consistency of radiology reports and communication with reference providers using a clear standard language (2). Structured reporting involves using predefined templates or checklists to guide the radiologists in documenting specific findings and providing a standardized interpretation of the imaging findings. Several studies have demonstrated the added value of structured reporting for US imaging of the pediatric appendix (1-4).

In this issue of JKSR, Choi et al. (5) retrospectively assessed the value of structured report-

ing for the US diagnosis of pediatric appendicitis. The study included 1150 pediatric patients (free-text group: 550; structured reporting group: 600) with suspected appendicitis who underwent US examination of the appendix between January 2009 and June 2016. The results showed a lower CT utilization rate (free-text group: 13.5%; structured reporting group: 8.2%, $p = 0.003$), lower negative appendectomy rate (free-text group: 16.2%; structured reporting group: 7.8%, $p = 0.028$), and better diagnostic performance in the structured reporting group than in the free-text group.

One such study by Nielsen et al. (4) evaluated the impact of structured reporting on the decreased CT utilization rate, increased accuracy of appendicitis diagnosis, and reduction in negative appendectomy rates in children. The study found that structured reporting led to a reduced rate of negative appendectomies, lower CT utilization rate, and higher specificity for the diagnosis of appendicitis.

Structured reporting of the pediatric appendix on US imaging has the potential to improve the accuracy and consistency of diagnosis, reduce the risk of radiation exposure, and reduce negative appendectomies (3, 4). Radiologists should consider implementing structured reporting to optimize patient care and outcomes. However, challenges are associated with the implementation of structured reporting in clinical practice (2). One challenge is the lack of standardization of templates or checklists used for structured reporting, which can lead to variability in the interpretation of imaging findings. Another challenge is the additional time and resources required to implement the structured reporting. Radiologists may need to undergo additional training and education to effectively use the templates or checklists, and the process of implementing structured reporting may require investment in the information technology infrastructure.

In summary, Choi et al. (5) provided more evidence of the benefits of structured reporting in the diagnosis of acute appendicitis. The structured reporting of US of the appendix can improve the accuracy of the diagnosis of pediatric appendicitis, reduce the CT utilization rate, and decrease the negative appendectomy rate. However, its implementation in clinical practice requires careful consideration of the challenges and resources required to use this technology effectively.

Conflicts of Interest

The author has no potential conflicts of interest to disclose.

Funding

None

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