Diagnosing Appendicitis at Different Time Points in Children with Right Lower Quadrant Pain: Comparison Between Pediatric Appendicitis Score and the Alvarado Score

Rahman Senocak · Oner Mentès

Published online: 28 April 2012
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Dear Editor,

We read the article by Wu et al. [1] with a great interest. In that study, the Alvarado score and the PAS are compared at different time intervals to diagnose appendicitis. We want to comment on some issues about this article.

First, the upper limit of white blood cells (WBC) at age 6 is $14.5 (\times 10^9/L)$ and at age 12 it is $13.5 (\times 10^9/L)$. After 12 years of age WBC is at adult level [2]. Children between 3 and 18 years of age were included in the study. Therefore, when the scores were calculated for infant group (PAS score gives 1 point to WBC, Alvarado gives 2 points), they could be much higher and the cutoff values might have been detected differently than usual. Hence, it might have been more appropriate to include in the study only those older than 12 years of age.

Of the 1,395 patients, 53.8 % were female and 36.8 % did not have appendicitis. The final diagnosis in this group, with scores greater than six and no appendicitis, usually was pelvic inflammatory disease or ruptured tubo-ovarian abscess. Therefore, false-positive results in menstruating girls were possibly high. The author reported a high false-positive rate, so another subgroup consisting of menstruating and nonmenstruating children should have been created.

Alvarado and PAS scoring systems have similar criteria except for two variables. It is difficult to decide which one is most effective in diagnosing appendicitis according to the results of this study. Schneider et al. [3] pointed out that neither method provided a sufficient positive predictive value (PPV) so as to be used in clinical practice as the sole method for determining the need for surgery. From the very beginning, when the study was designed, inclusion of those older than 12 and menstruating children into the study could provide more valuable and precise results.

References

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R. Senocak (✉) · O. Mentès
Department of General Surgery, Gülhane Military Medical
Faculty, Ankara, Turkey
e-mail: rahmansenocak@yahoo.com

O. Mentès
e-mail: onermentes@yahoo.com