PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Centor criteria in children in a pediatric emergency department: A retrospective cohort study
AUTHORS	Roggen, Inge; van Berlaer, Gerlant; Gordts, Frans; Pierard, Denis; Hubloue, Ives

VERSION 1 - REVIEW

REVIEWER	Philippe Lepage, MD, PhD Head, Department of Paediatrics Hôpital Universitaire des Enfants Reine Fabiola Université Libre de Bruxelles 15, av JJ Crocq 1020 Brussels
REVIEW RETURNED	14-Feb-2013

THE STUDY	1) As far as I am concerned,the major limitation of this study is not so much that not all chidren received a thoat swab, but rather the restrospective nature of the study which introduces a selection bias. 2) Only 441 episodes were selected out of a total of 2118 visits. It is therefore difficult to evaluate how representative these children were of the whole population of children with sore thoats. 3) Clinical scores are not useful to diagnose GAS sore thoats. They may however be very helpful to exclude GAS infections and diagnose viral pharyngitis (see Smeesters P et al Pediatrics 2006 validated by Joachim L et al, Pediatrics 2010). This should also be mentioned.
GENERAL COMMENTS	This is an interesting, clear and well-written manuscript on an important issue in Paediatrics/General Medicine. Major remarks : 1) As far as I am concerned,the major limitation of this study is not so much that not all chidren received a thoat swab, but rather the restrospective nature of the study which introduces a selection bias. 2) Only 441 episodes were selected out of a total of 2118 visits. It is therefore difficult to evaluate how representative these children were of the whole population of children with sore thoats. 3) Table 1 : 45% of children 2 to 4 years old were GAS +. These young children might be healthy GAS carrier with viral pharyngitis. This should be discussed. 4) Table 1 : It is surprising to note that, in preschoolers, the prevalence of GAS decreased with increasing Centor criteria. Some comments ?

	5) Clinical scores are not useful to diagnose GAS sore thoats. They may however be very helpful to exclude GAS infections and diagnose viral pharyngitis (see Smeesters P et al Pediatrics 2006 validated by Joachim L et al, Pediatrics 2010). This should also be mentioned.

REVIEWER	Maurizio de Martino, MD Professor of Paediatrics University of Florence, Anna Meyer Children's Hospital, Florencve, Italy
REVIEW RETURNED	11-Mar-2013

- The reviewer completed the checklist but made no further comments.

VERSION 1 – AUTHOR RESPONSE

Reviewer: Philippe Lepage, MD, PhD
Head, Department of Paediatrics
Hôpital Universitaire des Enfants Reine Fabiola
Université Libre de Bruxelles
No conflict of interest
This is an interesting, clear and well-written manuscript on an important issue in Paediatrics/General Medicine.
Major remarks :
1) As far as I am concerned, the major limitation of this study is not so much that not all children received a throat swab, but rather the retrospective nature of the study which introduces a selection bias.
Answer: This has been added to limitations
2) Only 441 episodes were selected out of a total of 2118 visits. It is therefore difficult to evaluate how representative these children were of the whole population of children with sore throats.
Answer: acknowledged, the 441 children included had indeed more often tonsillar excudate, fever and swollen cervical lymph nodes (and thus a higher Centor score). However, gender and median age are the same in the included and the excluded children, in both subgroups. This has been added to the manuscript.
Excluded (n=1677) Included (n=441) p-value
% boys (preschoolers) 46.7% 44.4% 0.6
% boys (kids) 49.3% 54.2% 0.4
Median age (preschoolers) 3.26 years 3.31 years 0.7
Median age (kids) 7.60 years 7.60 years 0.2
Tonsillar excudate 32.7% 53.3% <0.0001
Swollen lymph nodes 43.4% 53.1% <0.05
Fever 74.4% 81.6% 0.002
Absence of cough 68.2% 70.8% 0.7
Centor score 2.2 2.6 <0.0001

3) Table 1 : 45% of children 2 to 4 years old were GAS +. These young children might be healthy GAS carrier with viral pharyngitis. This should be discussed.
Answer: 45% of children 2 to 4 years old with a Centor score <2 (table 1) were indeed GAS+. The possibility of healthy carriership has been added to the discussion.
4) Table 1: It is surprising to note that, in preschoolers, the prevalence of GAS decreased with increasing Centor criteria. Some comments ?

Answer: This has been added to the discussion.

5) Clinical scores are not useful to diagnose GAS sore throats. They may however be very helpful to exclude GAS infections and diagnose viral pharyngitis (see Smeesters P et al Pediatrics 2006 validated by Joachim L et al, Pediatrics 2010). This should also be mentioned.
Answer: This part of the discussion is rewritten.
The scoring system from Smeesters et al. has indeed a higher sensitivity to exclude GAS in children compared to the Centor scoring system. Our results show that a child with a Centor score below 3 still has a 30% probability of having GAS+ throat swab culture. As 30% is the overall GAS prevalence in this age group, the Centor score is (at least in our group) insensitive to assess the absence of GAS. We bear in mind that the major limitation of a throat swab culture is that it does not distinguish between GAS pharyngitis and asymptomatic GAS carriership.
Minor remark :
Page 5, line 44 : « … thus its use should … » and not «… it's use…»
Answer: corrected
Reviewer: Maurizio de Martino, MD
Professor of Paediatrics
University of Florence, Anna Meyer Children's Hospital, Florencve, Italy
(There are no comments.)