OPEN PEER REVIEW

Open Peer Review (OPR)

As a new feature for progressing towards transparency, we decided to open a new window for all of our editors as well as authors titled "**Open Peer Review**". We hope by this new facility, our reviewers will be more motivated and authors will be more satisfied with the review process. We believe that publishing our peer review reports could make a transparent and clear environment for all our efforts within a journal, but not all reviewers tend to publish their comments.

What is "Open Peer Review" process?

An "Open Peer Review" process is making the details of all review process (including reviewers, associate editors, and EICs comments) as "Public" as it is agreed by EIC, Authors, and reviewers.

Advantages of "Open Peer Review" process

- More transparency, constructiveness and tactful comments of the peer review process: leads to an increase in the quality of reviews
- More motivations for all involved roles in the review process
- Authors' satisfactions from the review process: Increases honesty between authors and reviewers
- Education of both authors and new students
- Prevents reviewers from following their individual agendas and leading to the detection of reviewers' conflicts of interests

You can find out more at:
https://sites.kowsarpub.com/kowsar/knowledgebase/category/tree.html#opr.html

Archives of Pediatric Infectious Diseases
Article DOI: 10.5812/pedinfect.107774
Published in: Archives of Pediatric Infectious Diseases: 9(3); e107774

Peer Review Report for "Is Alvarado Score Helpful for Pediatrician in Diagnosis of Acute Appendicitis? Our Center Experience"

Author(s): Sedigheh Rafiei Tabatabaei, Abdollah Karimi , Mohammad Nassiri, Leily Mohajerzadeh, Shahnaz Armin, Roxana Mansour Ghanaie, Seyed Alireza Fahimzad, Farideh Shiva, Fatemeh Fallah, Ahmad Reza Shamshiri, Iraj Sedighi, Shirin Sayyahfar, Mohammad Sadegh Rezai, Babak Abdinia, Hosein Heydari, Gholamreza Soleimani, Mostafa Behpour Oskouee, Jafar Soltani, Mehran Ahmadi, Manijeh Kahbazi, Sayeh Hatefi

Review Timeline:

Submit Date:	24 Aug 2020
Revised Date:	7 Dec 2020
Accepted Date:	11 Dec 2020

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (0) 17 Sep 2020

Dear AE,
The authors have analyzed 631 patients with suspected acute appendicitis and tested the efficacy of the Alvarado scoring system. In the end, a negative predictive value of around 76% was found for a cut-off score of 7.
I commend the authors for the methodology and the results. However, the English language needs a major revision because the current form makes the text difficult to read.
- Please divide your results section to subsegmental sections.
- In the discussion, you should give your theory regarding why this scoring system did not work. Furthermore, why CRP or other lab parameters did not aid the diagnosis in children.
after these major points, the text will be improved to be published in the journal.
Thanks.

REFEREE: Reviewer | **Revision** (0) 18 Sep 2020

Dear AE,
Thanks for submission of the article
Totally:
Some sentences are not understandable for example" Pediatric patients history is established from accompanying adults so frequently is observational." So the English edition is strongly recommended
- Abstract: should be 250 words, follow the journal guideline for abstract writing.
- Background: please explain more about the Alvarado score and its position in the diagnosis of appendicitis in children,
- In the sentence" Regarding the importance of AA diagnosis in children and presence of numerous misdiagnosis for this condition, this study was designed to find diagnostic tools for identify earlier AA." it seems that the author's aim is changed. According to the last sentence, what do you mean by diagnostic effectiveness of preoperative tests(which test?)
- So it is recommended to revise the introduction totally.
- Material and method: how was the sample size calculation? What were the criteria for appendicitis in children? And what is the meaning of this sentence" and all data registered based on none surgeon examiner who consulted with the surgeon."
- Appendicular is correct, what is the ethical code of your study?
Results:
- What is the meaning of "amount patients with abdominal pain"?
- It is better to arrange all the results with no significance to give a comprehensive result, the sentences are boring if the results are not important they can be shown in the table.
- What do you mean by other included? Meckel's diverticulum is correct
Discussion:
- The first part of the discussion can move to the introduction part, omit the summary part and add it to the conclusion. please rearrange the other authors' results in comparison with your study and describe the differences.
References :
- Please check and correct the references part
BEST REGARDS

REFEREE: Reviewer | **Revision** (0) 30 Sep 2020

Dear AE,
Comments for the authors:
1- The sentence in line 88 is ambiguous. It should be specified in which cases the t-test and in which cases the chi-square test was used.
2- What is the final number entered in the analysis? How many people were excluded from the analysis due to data deficiencies?
3- What test is used for the result of line 147?
4- ROC analysis has been performed for the Alvarado system as a scoring system and its generalization to some components such as ESR and WBC is completely wrong. Please correct line 180.
5- The sentences in lines 193 and 194 are not based on your study data; Please specify the source.
6- In lines 152 and 153, according to the area under the ROC curve, it is stated that the

Alvarado scoring system has no diagnostic value in the diagnosis of appendicitis, but in the discussion and conclusion, a diagnostic threshold is recommended for this system.
According to the results of ROC analysis, this scoring system has no value in the diagnosis of appendicitis, even the best result (threshold 4.5) has no diagnostic value for appendicitis.
Regards

Ali Amanati: Associate Editor | **Revision** (0) 11 Oct 2020

Dear EIC,
According to the reviewers' comments, this article requires major revisions.
Thanks.

REFEREE: EIC | **Revision** (0) 12 Oct 2020

Dear Authors,
My decision about this manuscript is a Major revision.
Thanks.

OPEN PEER REVIEW

Revision (1)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Reviewer 1: in appendicitis

Dear Reviewer

Thanks for your comments. All comments applied point by point.

1- The sentence in line 88 is ambiguous. It should be specified in which cases the t test and in which cases the chi square test was used.

. Quantitative data were described by means and variance and compared with t-test .Qualitative data were compared with Chi-square test with frequency and percentage of description.

2- What is the final number entered in the analysis? A total of 631 patients referring the pointed hospitals with the suspicion to acute appendicitis were assessed. Of all 631 patients who were suspected to appendicitis, definitive diagnosis was confirmed in 168 cases.

How many people were excluded from the analysis due to data deficiencies? Cases with history of pervious abdominal surgery, had chronic medical conditions, or underwent multiple radiologic investigation of the abdomen within the previous last week were excluded. About 20 cases were excluded.

3- What test is used for the result of line 147?It is based on below table

Alvarado	**All patients (n=661)**
Sensitivity	44.05%
Specificity	66.95%
Accuracy	60.86%
negative predictive value (NPV)	76.73%
positive predictive value (PPV)	32.60%

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	P
Sum of 7 * surgery	631	100.0%	0	0.0%	631	

Sum of 7 * surgery Crosstabulation

Count

		surgery		
		n0	yes	Total
Sum of 7	n0	310	94	404

	yes	153	74	227
Total		463	168	631

از جدول بالا اطلاعات زیر به دست می آید:

```
FILTER OFF.
USE ALL.
EXECUTE.
```

True positive	74
True negative	310
False positive	153
False negative	94

TP	74
TN	310
FP	153
FN	94

مقادیر شاخص های تشخیصی

Sensitivity	44.05%
Specificity	66.95%
PPV	32.60%
NPV	76.73%
Accuracy	60.86%
LR+	1.33
LR-	0.84

حدود اطمینان 95% برای هرکدام از شاخص های فوق

95%CI Sen.	36.76 - 51.6
95%CI Spe.	62.55 - 71.08
95%CI PPV	26.83 - 38.94
95%CI NPV	72.37 - 80.59
95%CI Accuracy	56.99 - 64.59
95%CI LR+	1.076 - 1.651
95%CI LR-	0.72 - 0.97

True PTs	168
True healthy	463
Test positives	227
Test negatives	404
Total	631

4- ROC analysis has been performed for Alvarado system as a scoring system and its generalization to some components such as ESR and WBC is completely wrong. Please correct line 180.

The sentence deleted completely.

5- The sentences in lines 193 and 194 are not based on your study data; Please specify the source.

Score more than seven points reported sensitivity about88% to 90%, but the specificity is usually under 80% and is particularly low in young patients and women.(15)

6- In lines 152 and 153, according to the area under the ROC curve, it is stated that the Alvarado scoring system has no diagnostic value in the diagnosis of appendicitis, but in the discussion and conclusion, a diagnostic threshold is recommended for this system. According to the results of ROC analysis, this scoring system has no value in the diagnosis of appendicitis, even the best result (threshold 4.5) has no diagnostic value for appendicitis.

-In summary, we terminate ,although impression to clinical Alvarado score systems can be influential guide line in decision for cases with acute abdomen suspected to appendicitis in adults

(We have recommended ofor adult not for children.)

-In our study as cut-off point of 7 for Alvarado score is not suitable for suggestion of appendicitis so appropriated diagnosis needs to other investigations accompany with Alvarado score.

Dear Reviewer 2:

Thanks for your comments. All comments applied point by point

The authors have analyzed 631 patients with suspected acute appendicitis and tested the efficacy of the Alvarado scoring system. In the end, the negative predictive value around 76% was found for a cut-off score of 7.
I commend the authors for the methodology and the results. However, the English language needs a major revision because the current form makes the text difficult to read.

Thank you for recommendation. Major revision applied.And highlighted with green marker.
Please divide your results section to subsegmental sections.

Results divided to subsegmental sections.

In the discussion, you should give your theory regarding why this scoring system did not work.

In summary, we terminate ,although impression to clinical Alvarado score systems can be influential guide line in decision for cases with acute abdomen suspected to appendicitis in adults , but in children judgment on examination of abdomen is complex specially in young children and although these scores are attractive in conception, pediatric clinicians ,in the fashion of deciding on the diagnosis of the disease in children, they should observe the precautionary measures and examine them very comprehensively

Furthermore, why CRP or other lab parameters did not aid the diagnosis in children. These marker are useful in diagnosis.We recommended in discussion.
Recent studies showed that, inflammatory marker, include white blood cell (WBC), C - reactive protein (CRP) or pro-calcitonin, are notable to recognize appendicitis with significant sensitivity and specificity(7,8).
Unfortunately the vague character of signs and symptoms, in young children, leads to increasing risk of appendicle perforation and related morbidity and mortality (9)

After these major points, the text will be improved to be published in the journal

Reviewer 3:

Dear author

Thank you for submission of the article

Totally:

Some sentences are not understandable for example" Pediatric patients history is established from accompany adults so frequently is observational." So the English edition is strongly recommended

Dear reviewer thanks for your comment, this sentence deleted as you told.

Abstract: should be 250 words, follow the journal guideline for abstract writing.It corrected

Background: please explain more about the Alvarado score and its position in the diagnosis of appendicitis in children,

Alvarado scoring systems identify pediatric patients with suspected appendicitis. **Parameters for evaluation of appendicitis in the Alvarado score are include: migration of pain, anorexia, nausea or vomiting, right lower abdominal quadrant tenderness, rebound tenderness in right lower quadrant, increase of temperature, leukocytosis,shift to the left of neutrophils**

In the sentence" Regarding the importance of AA diagnosis in children and presence of numerous misdiagnosis for this condition, this study was designed to find diagnostic tools for identify earlier AA." it seems that the author's aim is changed. According to the last sentence what do you mean by diagnostic effectiveness of preoperative tests(which test?)So it is recommended to revise the introduction totally.

Regarding the importance of AA diagnosis in children and presence of numerous misdiagnosis for this condition,so in literatures there are some scoring systems for early identification of acute abdomen. We used the Alvarado scoring system (3) to evaluate value of this diagnostic way in improving preoperative diagnosis of AA. Alvarado scoring systems identify pediatric patients with suspected appendicitis. **Parameters for evaluation of appendicitis in the Alvarado score are include: migration of pain, anorexia, nausea or vomiting, right lower abdominal quadrant tenderness, rebound tenderness in right lower quadrant, increase of temperature, leukocytosis,shift to the left of neutrophils**

Material and method: how was the sample size calculation? In retrospective cross-sectional study in 2016 and October 2017, ten provinces out of the 31 provinces in Iran were randomly selected. A total of 631 patients referring the pointed hospitals with the suspicion to acute appendicitis were assessed .

What was the criteria for appendicitis in children? And what is the meaning of this sentence" and all data registered based on none surgeon examiner who consulted with surgeon."

Any patient who is treated by a pediatric emergency medicine attending physician and has abdominal pain suggestive of appendicitis is required to have a surgical consultation per the hospital's clinical practice guidelines.

Appendicular is correct

, what is the ethical code of your study?This study has ethical code that has sent for journal.

Results:

What is the meaning of "amount patients with abdominal pain"?it corrected.

, in patients

It is better to arrange all the results with no significance to give a comprehensive result, the sentences are boring, if the results are not important the can be shown in the table.

What do you mean by other included? Meckel's diverticulum is correct corrected

Discussion:

The first part of the discussion can move to the introduction part, omit the summary part and add it to the conclusion.

Conclusion:

In summary, we terminate ,although impression to clinical Alvarado score systems can be influential guide line in decision for cases with acute abdomen suspected to appendicitis in adults , but in children judgment on examination of abdomen is complex specially in young children and although these scores are attractive in conception, pediatric clinicians ,in the fashion of deciding on the diagnosis of the disease in children, they should observe the precautionary measures and examine them very comprehensively.

Although the Alvarado system scoring supplies obviously helpful diagnostic information in adult patients but in assess children supposed to appendicitis, this method lonely affords not sufficient positive predictive value (PPV) to be practical in clinical management as the solitary

method for determine the necessitate of operation. So it is healthier that cut off point score for expecting the possibility of appendicitis in children judge lower than 7.

please rearrange the other authors' results in comparison with your study and describe the differences.Thank you it rearranged.

References :

Please check and correct the references part it checked

BEST REGARDS

OPEN PEER REVIEW

Revision (1)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Reviewer | **Revision** (1) 25 Nov 2020

Dear AE,
Thanks for the revisions.
The verb “is suggested” in line 171, means that you recommend this cutoff value for children. Please correct it.
Regards

Ali Amanati: Associate Editor | **Revision** (1) 26 Nov 2020

Dear EIC,
Please follow the reviewer's comments and reply in a point-by-point manner.
Thanks

REFEREE: EIC | **Revision** (1) 26 Nov 2020

Dear Authors,
My decision about this manuscript is a minor revision.
Thanks.

OPEN PEER REVIEW

Revision (2)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

December 7, 2020

Dear Editor-in-Chief:

The verb “is suggested” in line 171 is corrected and changed to "is". It is highlighted in red.

Regards
Leily Mohajerzadeh, MD, Pediatric Surgeon
Mofid Children Hospital, Department of Pediatric Surgery
Shahid Beheshti University of Medical Sciences
mohajerzadehl@yahoo.com

OPEN PEER REVIEW

Revision (2)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

Ali Amanati: Associate Editor | **Revision** (2) 10 Dec 2020

Dear EIC,
I read the revised manuscript, I have no further comments to add. I thank the authors for their very detailed replies to my comments.
Thanks

REFEREE: EIC | **Revision** (2) 11 Dec 2020

Dear Authors,
My decision about this manuscript is accepting.
Thanks.