Reviewer's report

Title: Antibiograms from community-acquired uropathogens in Gulu, northern Uganda - a cross-sectional study

Version: 1 Date: 21 January 2013

Reviewer: Casper den Heijer

Reviewer's report:

This is a cross-sectional study looking at the distribution of uropathogens from community-acquired urinary tract infections (UTIs) at a regional hospital in Uganda, as well as their resistance profiles. Based on the findings presented in this manuscript, the currently recommended antibiotics for community-acquired UTI, co-trimoxazole and amoxicillin, are not acceptable because of their high resistance levels. Therefore, the authors opt for gentamicin and amoxicillin-clavulanate as preferred treatment choices, given their relatively low resistance levels. UTI surveillance studies are indeed very important to determine the optimal empirical therapy in a certain setting. Still, I have several questions regarding the manuscript presented.

Major Compulsory Revisions:

Introduction

1) What was the specific aim of this study? A description is given at the end of the Introduction section, but it can be more specific in my opinion.

Methods

2) Leucocyturia is used as a criterion to assess true UTI. The authors justify this by referring to recommendations from an expert group in 1990. To my knowledge, leucocytes in the urine are associated with more than UTI alone, thereby making this an aspecific criterion. Could it be that patients were incorrectly classified to have a UTI?

3) Why was leucocyturia used as a criterion for all patients and not only for the patients from whom it was known that they had used antibiotics recently. This information was available (questionnaire) and the authors justify the use of leucocyturia by the fact that participants who had self medicated would not yield sufficient bacterial growth on urine culture.

4) The patient population included is quite heterogeneous. Both men and women, pregnant and non-pregnant women, an overall very young study population but a male patient with prostatic hypertrophy are included. It is well-known that UTIs in these patient groups differ with respect to the distribution of uropathogens and resistance profiles. Can the authors justify that these groups are allowed to be put together?
The main advantage of separating these groups is that more specific recommendations can be given, thereby limiting the promotion of broad-spectrum antibiotics.

Minor essential revisions

General

5) Throughout the manuscript the antibiotics are given with a capital. I am not sure whether this is indicated.

6) The writing of gentamicin is not consistent (gentamycin in Methods section)

Methods

7) With respect to the heterogeneous patient population, is the use of 10^5 cfu/ml as cut-off value for true UTI correct for all these patients?

8) Were clinicians instructed on when an outpatient should be classified as "suspected to have u UTI"? Were specific symptoms used?

Results

9) There is no report of more than one uropathogens being isolated from a single patient. Did this indeed not occur?

10) I was quite surprised that Staphylococcus species were the dominant uropathogens in the study, because it is known that E. coli is the most common cause of (uncomplicated) UTIs. Could this be an indication of a selection of patients?

11) Given the relatively low numbers, it would be helpful to give 95% confidence levels in order to interpret the resistance levels correctly.

12) I found the high E. coli resistance level to nitrofurantoin quite remarkable. A recent study by Mwaka et al. (Afr Health Sci 2011) recommended this antibiotic for non-pregnant women in Uganda. Could you explain this difference?

Discussion

13) The Discussion section is somewhat long and I think it can be profitably shortened.

14) The term 'molecules' in the first sentence of the Discussion is a bit awkward. I would suggest to use 'antibiotics'.

15) In the Discussion I learned that most of the Staphylococcal species consisted of S. saprophyticus. This information should be provided in the Results section.

16) I am not sure whether gentamicin is such a safe agent. Isn't it known for it oto- and nefrotoxicity? In this perspective, is this an appropriate choice for community-acquired UTI?
17) Strengths and weaknesses of the study need to be described in the Discussion section

Tables

18) Tables could be clearer by additional footnotes. In Table 1, it is stated that in 115 females significant leucocytes were found. With a total of 79 women, this number should be lower.

Discretionary Revisions

Tables

19) In Table 1, it would be more interesting to compare the patients with true UTI versus patients without true UTI.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests