Reviewer’s report

Title: Antibiotics are prescribed inappropriately to adult pharyngitis patients and McIsaac modification of Centor score is the answer to reduce unnecessary antibiotic prescriptions in low socio-economic areas.

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Reviewer: Edward L Kaplan

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Palla and co-authors have studied antibiotic treatment in Pakistani adults with suspected group A streptococci isolated from the upper respiratory tract. The authors conclude that antibiotics were prescribed irrationally in this group of patients. In the absence of readily available laboratory facilities or rapid antigen detection tests, the authors urge utilization of the McIsaac modification of the Centor score to assist. The conclusions are not unexpected as time and again in both industrializing and industrialized countries the same has been true. But the point is always worth emphasizing.

Several issues require clarification:

The WHO reference they quote (reference #6) is adequate, but perhaps the authors should consider also quoting the more recent WHO Technical Report Series on streptococcal infections and rheumatic fever published in 2004 (?TRS #923) which is addressed to the control of streptococcal infections and their sequelae.

The authors appear to equate the presence of group A streptococci in the upper respiratory tract with "infection." They do not mention the issue of
the streptococcal carrier state and how it should be clinically approached.
This should be addressed.
The authors suggest a sensitivity of 80% for rapid antigen detection tests. As the authors are aware, some tests do not meet that standard, and others are reported to have >90%. Can the text be modified?
The authors state that they have approval of the ethics committee. Perhaps I have overlooked it, but was individual consent (written or oral) obtained from each enrolled subject?
Again, I may have overlooked it, but is there an adequate description of how these subjects were selected? Was it random selection? If not, how can the methods of selection be justified?
Evidence in the literature indicates that the peak of streptococcal infections is in children between the ages of 5 and 15 years. Yet the authors have included the age range 14 years to 65 years. One might question this age range because it would seem that the streptococcal experience of a 14 year old school child is quite different from a 60 or 65 year old adult.
Am I correct in assuming that the blood agar plates used sheep blood? If so, it should be stated. Many places in developing countries use outdated human blood and, as the authors are aware, this is inappropriate for this purpose.
The bacitracin discs (it should be noted that these are special discs)
represent only a presumptive test for determining whether these are group A strains. Were any additional techniques used to confirm the serogroup, and if not, why not?

Minor point but one that should be addressed: Several times throughout the manuscript the authors equate isolation of the streptococcus with infection. This is inaccurate.

The fact that, at least in this reported sample, only 5% of those treated were culture positive is interesting and important to point out. One of the recommendations that they make relates to the fact that clinicians in "low socioeconomic countries" need further education about this matter. From the literature clinicians in other settings also need education!!

It was of interest that among the antibiotics given, benzathine penicillin G was not mentioned. Is it not used? Why not? This also raises the question of whether compliance was checked in those subjects given oral antibiotics. That is a factor that must be considered. The WHO does recommend benzathine penicillin G.

I would like to see a similar study done in this population, but in children.