Author's response to reviews

Title: Streptococcal necrotising fasciitis from diverse strains of Streptococcus pyogenes in tropical northern Australia: case series and comparison with the literature

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Author's response to reviews: see over
Revisions in response to Reviewer reports

Thankyou for the opportunity to revise our paper. Changes in the revised version are in bold below.

Reviewer 1
1. Abstract, results – Clarified by adding “from other countries” - “Incidence rates…. were up to five times those previously published from other countries.”
2. Results, page 10 – text is correct – two fatal cases did receive clindamycin – Case 4 in Table had clindamycin left out of treatment column in error – now corrected in revised Table.
3. The Mulla 2003 paper is now added to the Discussion on clindamycin (Ref 28 in revised version.) “A recent retrospective review of notified invasive GAS infections in Florida, USA showed the use of clindamycin to be associated with lower mortality in NF cases, but not in other invasive GAS infections[28]. However there have been no randomised clinical trials.”
4. As suggested we have referred to the 2001 cases as a cluster, but also noted that they were not clonal – Results – “Half of the cases occurred in Aboriginal patients, with an incidence of 5.8 per 100,000 for Aboriginals in the 2001 cluster of cases.” …” The two emm 3 isolates were from the 2001 cluster of five cases. However they were very divergent on random amplified polymorphic DNA analysis (data not shown), one being emm sequence type 3.2, and the other three isolates in this cluster were all different emm types.”
In addition we have noted that our study has a much smaller population base than the other epidemiological studies – Discussion - “However the population denominators in the Canadian and Norwegian studies are far greater than in our study. Nevertheless, previous data from our region
showed that rates of GAS bacteremia in the Aboriginal population were five times those in the Caucasian population[9].

As suggested Table 1 now includes the year of each case in column 2.

Reviewer 2

No changes required.

Reviewer 3

1. We have clarified in the methods that “Fourteen cases fulfilling the case definition were identified”. Full data were then obtained by chart review – we have omitted the term “retrospective”.

2. We do not have data on the pyrogenic exotoxins for the 14 isolates - the purpose of our molecular data (emm sequencing) is to show the large diversity of GAS strains causing NF in our setting.

3. We have clarified in Patients and Methods that the study covered the 7 years “….between May 1994 and April 2001.”

4. We have not reduced our Discussion as suggested by this Reviewer (but not by the other two). Because our study is the only NF paper that addresses each of epidemiology, molecular data on isolates, clinical presentation and therapy, our Discussion is a synthesis of the literature on all of these aspects. As such we feel it is a valuable review article for readers. Although we only include 14 patients, this is a large series for a single hospital and strict case definition fulfilment and full clinical data make the findings informative when discussed in the context of the literature. For instance the added Mulla paper from Florida has 45 NF patients but they acknowledge their study is limited by diagnosis and findings being only based on written notifications to the State Health Department.