Reviewer’s report

Title: Detection of virulence genes in Malaysian Shigella spp. strains by multiplex PCR assay

Version: 2 Date: 5 September 2004

Reviewer: Lei Wang

Reviewer’s report:

General

---

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

This paper studied the prevalence of four virulence genes (set1A, set1B, ial and ipaH) in 110 Malaysian Shigella clinical isolates using multiplex PCR. Detection of these four genes in clinical isolates from various sources and location using monoplex PCR has already been reported in a number of studies. The authors modified the monoplex PCRs into a multiplex PCR employing the primers used in previous studies, and gave results showing that the pattern for the prevalence of the four virulence genes in different serotypes is in consistent with previous studies. The authors also did tests on spiked faecal samples and clinical specimens.

General comments:

PCR assays solely based on virulence genes can not be used for the detection and identification of Shigella spp. as EIEC strains also possess some of the virulence genes. The point made for specific detection of Shigella spp. by the mPCR should be removed throughout.

Any reasons for not including other virulence genes in the study such as sen and stx? The PCR methods for detection of sen and stx are also available (Vargas et al, 1999, JCM).

Specific comments:

1. Conclusions in Abstract, the sentence “Strains of Shigella spp……. can be rapidly detected in a single assay” should be modified, as EIEC may also be detected (See general comments).

2. “Reproducibility and specificity” section in Results, the point made as in the sentence “It was specific as none of the non-Shigella strains gave any amplification” is unacceptable, as the authors did not test any EIEC strains. Tests on various EIEC strains should be performed.

3. Discussion (page 10), the point made in the sentence “Our study supported the observations……..in local Shigella strains” is not clear.

4. Discussions (page 12), the conclusion made by the authors on that mPCR system is able to identify virulent Shigella strains is unacceptable for the same reason given above.
**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

**Quality of written English:** Acceptable

**Statistical review:** Yes

**Declaration of competing interests:**

None