Reviewer's report

Title: Molecular and Epidemiologic Analysis of County-Wide Outbreak Caused by Salmonella enterica subsp. enterica serovar Enteritidis Traced to a Bakery

Version: 1  Date: 23 February 2004

Reviewer: Carl Schroeder

Reviewer's report:

General

The manuscript by Lu et al. provided valuable information about an outbreak investigation following increased incidence of gastrointestinal illnesses in an emergency room in Taiwan. The authors provided evidence to implicate Salmonella Enteritidis as a cause of infection and contaminated bread as the vehicle of infection.

The authors should be commended for conducting the investigation and documenting their results. I hope that the following comments prove helpful in strengthening their report.

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

1. The first paragraph should have been broadened. For instance, have any outbreaks of salmonellosis been reported in Taiwan? What about those related to S. Enteritidis? Expansion of the Introduction would greatly aid the reader in placing the current study in context. As is, it seemed unduly abbreviated.

2. Somewhere in the manuscript the authors should have elaborated on whether the mayonnaise or pork toppings may have been vehicles of infection. Specifically, have mayonnaise and pork been implicated in infection previously? Granted, the authors state that cultures were not available for each part of the bread; nevertheless, this point deserved further consideration/discussion.

3. Regarding the antimicrobial susceptibility testing, it is essential that the authors include description of what if any quality control organisms were used. Also, a description of tested dilution ranges and breakpoints would have provided valuable information.

4. A list of quality control organisms should also have been provided for the PFGE experiments.

5. On page 8, the authors state that 6 of the 131 not consuming the implicated food were culture-positive for Salmonella. Were these cultures determined to be S. Enteritidis?

6. On page 9 the authors state that blood samples from two patients were positive for S. Enteritidis, thus implying invasive infection. A further elaboration/discussion of this point would have been valuable. For instance, what was the treatment regime? The clinical outcome? Etc.

7. In general, further information about patient demographics would have greatly improved the manuscript. For instance, information about patient age would have been valuable in learning more about the epidemiology of salmonellae infection.
8. On page 11 the authors state that the bread sold in the Chinese traditional markets “might not have been” protected through sanitary regulations and that production and distribution were “unlikely to have been subjected to routine hygiene inspections. If the authors knew who produced the bread, wouldn’t it have been possible to determine whether production was subjected to hygiene inspections, etc. Inclusion of this information would have been helpful and helped to tighten the Discussion.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. Page 2: I suggest the first sentence should be broken into two sentences. The first sentence could be ended after “…. emergency room” and the second begin “With patients came from ……….”

2. Page 2: In the third line under “Methods” the word “enteritidis” should have been capitalized.

3. Page 2: The term “pulsed-field electrophoresis” should have been written “pulsed-field gel electrophoresis.”

4. Page 2: A description of how antibiograms and serotypes were assayed should have been included under “Methods.”

5. Page 2: On the fourth line of the “Results” the percentage of 34 of 165 should have been included parenthetically. See the third line under “Results” (page 7) for example. For the sake of consistency, this convention should have been used throughout the manuscript.

6. Page 2: On the sixth line under “Results” the term “S. enterica subsp. enterica serovar Enteritidis” should have been abbreviated to “S. Enteritidis.” It was spelled out previously (see second line under Methods on the same page). In general, the authors should have abbreviated throughout the manuscript following first use of the term.

7. Page 2: On the last line of the page, the abbreviation “PFGE” should have been used in place of “pulsed field electrophoresis.” (It was spelled out on the last line under Methods on the same page). The authors should check this throughout the manuscript.

8. Page 5: The word “at” should have been included between “refrigerator” and “4 degrees C.”

9. Page 7: The word “of” should have been inserted after “P value.”

10. Page 7: In the first line under “Results”, a space should have been included after the word “acute.”

11. Page 8: In the first paragraph, the word “Twenty-eight” should have been written numerically, i.e. “28.”

12. Page 8: In the second paragraph, the word “and” should have been included after “headache (8.8%).”

13. Page 8: The authors should check the spelling of “sequel.” They may have meant “sequellae”, or something similar.

14. Page 13: On the first line of the page, the word “light” may have been better written “lightly.”
15. Page 14: Under the Acknowledgements, the abbreviation “CDC” should have been spelled out.

16. Page 14: The following sentence, “The assistance with what during ……….” did not make sense. The authors should have considered rewording the sentence.

17. Page 23: Abbreviation such as “WBC,” “GOT,” etc. should have been spelled out. Also, units of measure for “Neutrophil” and “Lymphocyte” should have been indicated parenthetically. Lastly, the authors should consider whether the information presented in Table 1 is essential for understanding their findings. My suggestion is that Table 1 may not have been required.

18. Page 24: On the third line of the legend to Figure 2, the word “market” should have been plural.

19. Page 24: On the third line of the legend to Figure 3, the word “Except” should not have been capitalized. Also, the sentence in which it was used was not clearly written. Lastly, it would have been clearer had the authors described the contents of the lanes in the order they occurred. In other words, lane 20 should have been described before lanes 24 and 25, and so forth.

20. Page 25: The title to Figure 1 should have been expanded. As is, the title simply describes the contents of the Y axis. Also, the label to the Y axis should perhaps have been written “No. of cases.” Lastly, the different colors/patterns of the bars were difficult to discern.

21. Page 26: The following suggestions would improve the map. First, would it be possible to write “Market A” instead of just “A”? Second, it would have been helpful to include the number of cases in parentheses after each market. Third, “H” should have been simply spelled out to “Hospital.” Fourth, a legend compass showing North, South, East, and West would have been informative.

22. Page 27: The lane numbers should have been spaced further apart (perhaps in a smaller font). As shown, the numbers, especially those with two digits, ran together and were difficult to discern.

Discretionary Revisions (which the author can choose to ignore)

1. Page 1: In the title, the letter “a” perhaps should have been placed before “County-Wide,” as in “Molecular and Epidemiologic Analysis of a County-Wide Outbreak ……….”

2. Page 3: The authors should consider using the word “implicated” in place of “confirmed.” They seem to use these terms interchangeably throughout the manuscript. Regardless of what word they choose, I recommend they seek to be consistent.

3. Page 3: The last sentence under “Conclusions” did not appear needed. It tended to detract from a clear and concise statement of conclusions.

4. Page 4: In describing the gastroenteritis, the authors used the adjective “febrile” whereas at other points they used “acute.” For the sake of consistency, the authors may wish to use both words for describing the gastroenteritis; or, alternatively, they should consider using one or the other.

5. Page 9: The authors stated that “These isolates are all serogroup ……….” They may wish to consider using the past tense, i.e., “….were all serogroup…."

6. Pg 9: In the paragraph beginning “Serogroup D Salmonella …..” the authors may wish to specify they were referring to isolates obtained from patients presenting to their hospital.

7. Pg 11: In the sentence beginning “The vehicle of infection ……….” the authors may wish to insert
the adjective “implicated” before the word “vehicle.”

8. Pg 12: In the sentence beginning “Outbreak due to Salmonella ……..” the authors may wish to write “….. 5.6% of outbreaks for which a bacterial etiology was determined” or something similar. Also, percentages for the U.S. and Japan would have helped the reader quickly place the information from this sentence in a broader context.

9. Pg 12: In the next sentence, it would have been helpful had the authors specified how many outbreaks of S. Enteritidis are caused each year in Taiwan. This would have been more informative than simply stating it was the “leading” cause of salmonellae food poisoning.

What next?: Accept after minor essential revisions

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

Declaration of competing interests:

None