Reviewer’s report

Title: Enhanced surveillance of invasive listeriosis in the Lombardy region, Italy, in the years 2006-2010 reveals major clones and an increase in serotype 1/2a

Version: 3 Date: 31 January 2013

Reviewer: Brita Bruun

Reviewer’s report:

Although the manuscript has been shortened (about 14-15%), I still find it to be too long. In the following I have attempted to condense the text, especially the Discussion, as I consider this to be compulsory. The authors should also themselves try to further shorten the manuscript. In the process I have also tried to improve the English to the best of my ability.

Numbers refer to lines in the following:

ABSTRACT
28-9. total population, reported 55% of the nation’s listeriosis cases in 2006-2010.
36-7. delete Italy; delete “after the implementation of a voluntary laboratory based surveillance system”, as this has been stated under Background above
37-8. of cases have also been described.
41. conditions constituted…..
44. 1/2a and 4b comprised…..
48-9. during the entire study period. No outbreaks were notified to the public health authorities during this period.
52. the epidemiology and…..
54. the chances of detecting and inactivating transmission routes.

BACKGROUND
68-70. I am in doubt as to whether this second syndrome-based surveillance system covering CNS infections is taken into account in the text below; if this system is not used, the mention of it is superfluous. What is mentioned in lines 235-6 is the mandatory reporting of infectious diseases in Lombardy.
86. (MLST) has also been used for some…..
101. During the study period, ..... 
109-10. In Lombardy, the national.....system has since 2005 been......
121-2. the latter comprising those occurring in pregnant women or in infants aged less than....
124-5. meningitis (including cases with concomitant septicemia), and other
infections.
129. delete Italy x 2

RESULTS
172. pregnancy-associated (in one case isolates from both mother and child were included) and.....
176-7. Out of 118 isolates from non-pregnancy associated cases 114 (96.6%) were isolated...
181-2. were serotype 1/2a, 52 (38.8%) serotype 4b, nine (6.7%) serotype 1/2b, and three (2.2%) serotype 1/2c.
183-5. The movements of serotype 4b are impossible to follow in Fig. 1, as the colors used do not differentiate between serotypes 4b and 1/2b, see below.
185. In contrast, the number of.....
193. 1/2b and 4b affected patients > 65 years old more frequently than 1/2a (......
205. of the 94 listeriosis.....
212. respectively), and peaked.....
214. do the authors mean “all eight provinces of Lombardy”? 
222. I can’t seem to find the term ECV on Fig. 2, but as the writing is small I may have overlooked it.
223. One isolate (233) tested.....

DISCUSSION
230. during 2006-2010 the number.....
239. subjects, in accordance with.....
241. fluctuated between.....
242. < 0.2 cases per.....
245-6. to be contrary to the trend in most European .....during 2006-2010.
247-8. In Lombardy, no.....were notified during the study period to the health authorities.
250-1. of foods with long shelf lives, ......period, and infrequent infections vs. presumably frequent exposures,.....
253. of patients > 65 years and.....
254. was “low and” comparable to.....
259-61. tools for use in epidemiological investigations of listeriosis.
262. During the study period, the most common.....
266. 1/2a is presumably replacing.....
268. as many as 87% of listeriosis.....
269. a proxy of presumably undetected.....
270. delete likely (could have is sufficient)
277. were also common in our region (31).
278. CC9 being ranked third..... infrequent among.....
279. In contrast, CC101.....
280. particular, 1/2a/ST38 isolates were recovered from 31 cases
281. the entire study period, peaking.....
283-4. three isoates from France,..... Germany, 2011, respectively
285-6. >1,000 isolates.....
295. the consumption of regional food products.
296-7. lasting many years should not be disregarded because of the relationship of L. monocytogenes.....
298-9. for surviving in food processing plants and multiplying under.....
300-3. I think the information given in these four lines is better placed beginning in line 284 following “Germany, 2011”; and I suggest the following wording: Furthermore, Knabel et al (18) have reported a 1/2a/CC8 strain as causing listeriosis in Canada for >two decades, with most cases in elderly or immunosuppressed patients and not in pregnancies, as seen in our cluster of 1/2a/ST138 cases.
307. strains of this clonal group
308. in 1998-199 and.....
312. ECIII has previously only been.....
314-5. previously reported from Italy as the causative agent of an outbreak involving 1,566 immunocompetent patients with febrile gastroenteritis associated.....
316. maize (or American corn!)
317-8. identified in 10 isolates into two clusters, comprising eight ..... The frequent.....
319. concerning, as these clones have been.....
320-1. national and international outbreaks....It has been hypothesized that....
326. could be conclusively associated.....
327-8. conditions. The exceptions are the five isolates (isn’t it seven isolates in Fig.2?)..... belonging to cluster 8 (isn’t it cluster 7 in Fig. 2?), .....
329. recovered from non-pregnant patients younger than 65 years,
330. cluster 14 (are there more than 11 clusters in Fig. 2?)
235-6. delete the first part of the sentence and begin with The Lombardy notification rate.....
238. delete plausibly (could be is sufficient)
CONCLUSIONS
342-3. is not suitable as a stand-alone method, ..... 
344. detection can alert ..... 
345. including (instead of integrating?) conventional epidemiological information, thus ..... 
346. Moreover, the ..... 
348. In the developed countries, the increasing proportion 
349-50. suggest delete “such as “elderly and immunocompromised subjects” (is evident from above) 
350-2. of listeriosis, calls for enhancing surveillance, improving control of L. m. in food, and promoting education about safer food choices. Suggest tat “in high risk individuals” be deleted. 

As Table 1 is very “busy” I would suggest deleting the column labelled “Interval of time” as I don’t think it contributes much to the table. 

Table 2. Data given under the heading Gender, which gives the total number of cases is not in accordance with data given under the heading Infection type, e.g. 12 (M) +18 (F) cases of Cluster 11 under Gender compared to 20 (septicemia) + 4 (meningitis) under Infection type. Clusters 6 and 12 should also be checked. As there is only 4 cases of “Other infections” in the non-pregnant group this cannot explain the discrepancy. 

Fig. 1. There is not enough color difference between serotypes 4b and 1/2b. Would also suggest that the legend below the abscissa is changed from total to total number of isolates. 

Fig. 2. should be checked for omissions (ECV, number of clusters, see above), etc. Suggest that “code” (this would mean that the text has to be changed accordingly in line 223 to “One isolate tested.....) and “year” be deleted in order to make the figure easier to read. 

Level of interest: An article of importance in its field

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.