Reviewer’s report

Title: Production of icaADBC-encoded polysaccharide intercellular adhesin and therapeutic failure, in pediatric patients with staphylococcal device-related infections.

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Reviewer: Carla Renata Arciola

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The objective of the study was to determine whether therapeutic failure in patients infected with Staphylococcus spp. is linked to biofilm production, the presence of the ica operon, and the bacterial insertion sequence element IS256. The authors observed that the presence of icaA/D genes along with the sequence element IS256 was associated with therapeutic failure in most CoNS infections, even though its absence in S. aureus isolates does not ensure therapeutic success.

The work however presents heavy limitations in methodological testing of ica operon.

1. The Authors state that “after the DNA was extracted, the icaA, icaB, icaC, and icaD sequences were amplified. The sequences were taken from the genetic database at the National Center for Biotechnology Information (accessed for the ica operon U43366) and the publications of Arciola and Ziebuhr, using the conditions mentioned by these authors [16,10]”. In both the cited references methods for detecting icaB and icaC are not reported and the authors do not give details on the PCR conditions for icaB and icaC detection.

2. PCR detection of IS256 is described neither in Ref. 16 nor in Ref. 10 and thus method for this detection is not reported in the work.


4. Accession number for the ica operon U43366 refers to Staphylococcus epidermidis and primers picked from this gene sequence are not warranted to detect ica operon in all CoNS (S. hominis, S. haemolyticus, S. lugdunensis, S. auricularis).

5. Primers picked from U43366 may be applied to S. aureus with particular attention to the stringency of the PCR conditions. What PCR conditions were there? This was not exhaustively specified in the work.

6. In PCR detection of ica genes, positive controls using reference strains (S. epidermidis RP62A, and S. aureus ATCC 35556) are not carried out.

With these limitations in the methodological approach also the validity of the results is not certainly assured and the manuscripts cannot be accepted for
publication on BMC.

Level of interest: An article of limited interest

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

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests