**Author’s response to reviews**

**Title:** Multiplex Polymerase chain reaction to diagnose bloodstream infections in patients after cardiothoracic surgery

**Authors:**

Kevin Pilarczyk (kevin.pilarczyk@imland.de)

Peter-Michael Rath (peter-michael.rath@uk-essen.de)

Jörg Steinmann (Joerg.Steinmann@klinikum-nuernberg.de)

Matthias Thielmann (matthias.thielmann@uk-essen.de)

Maximillian Dürbeck (maximilian.duerbeck@uk-essen.de)

Stephan Padosch (stephan.padosch@uk-koeln.de)

Heinz Jakob (heinz.jakob@uk-essen.de)

Fabian Dusse (fabian.dusse@uk-koeln.de)

**Version:** 2 **Date:** 31 Mar 2019

**Author’s response to reviews:**

On behalf of the co-authors I thank the reviewers for handling this manuscript and for the valuable comments. The manuscript has been revised accordingly.

Reviewer 1

- If possible, authors should modify some dated references.

- In background section, line 10, I proposed to add the sentence: environmental contamination could be responsible of nosocomial infection acquisition and diffusions of MDR microorganisms

#The sentence has been added.

Add reference :

- What Healthcare Workers Should Know about Environmental Bacterial Contamination in the Intensive Care Unit.
Vincenzo Russotto, Andrea Cortegiani, Teresa Fasciana, Pasquale Iozzo, Santi Maurizio Raineri, Cesare Gregoretti, Anna Giammanco, and Antonino Giarratano.


- Polyclonal non multiresistant methicillin resistant Staphylococcus aureus isolates from clinical cases of infection occurring in Palermo, Italy, during a one-year surveillance period.


#The references have been added.

The aim is poor. Please, you should better explain the aim of this work to underline and emphasize the significance your results with respect to the problems of ongoing antimicrobial resistance.

#The description of the aim of our study has been revised, in particular with regard to the problems of antibiotic resistance.

In discussion sections:

1. remark the importance of rapid identification of microorganism and add the reference:


#The references have been added.

The conclusions are intuitive and the findings don't support an innovative discovery. Please, insert some comment about the comparative analysis of the used diagnostic methods.
The conclusion has been revised accordingly.

In tables write the name of bacteria with italic letters.
#The format has been changed accordingly.

Reviewer 2

Abstract

Abstract is too long, the Methods are not clear and incomplete.
#The abstract has been shortened and the methods has been revised.

Please, explain "(p=n.s.)", or put the real number
#The definition of “n.s. has been added.

The last part of Results in the Abstract is not clear, please correct it.
#The section 'results' has been revised.

Methods

Please insert the Ethic Committee number
#The number has been added in the declaration section.

Blood cultures paragraph: please, describe briefly in which kind of media aliquots of blood were cultivated.
#A detailed description of the methods has been added to the methods section.
Discrimination between infection and contamination in BC paragraph is not clear

#The discrimination between infection and contamination in the BC paragraph has been pointed out more clearly.

Discussion is too long it is too long and difficult to follow and read

#The discussion has been shortened and condensed.

Attention to typing mistakes

#The manuscript has been checked for typing mistakes.

Tables and Figure

Put in italic form the name of bacteria e insert the abbreviation legend below tables

#The format has been changed accordingly and an abbreviation legend has been added.

Figures are poorly in quality

#The figures have been redrawn in proper quality.

Reviewer 3

1. It is not clear in the Methods whether it is a prospective or a retrospective study

#The type of the study has been described clearly.

2. The criteria for identifying the suspected BSI are missing.

#A comment on the criteria for identifying suspected BSI has been added.

#The reference has been added.