



## The impact of prior antibiotic use on blood culture and antibiotic susceptibility results in patients with biliary obstruction

To the Editor,

In a recent issue of the Turkish Journal of Gastroenterology, Suna et al. (1) reported the changes and antibiotic susceptibility of microorganisms reproducing in bile and blood cultures over the years in their large number of patients that underwent endoscopic retrograde cholangio pancreatography (ERCP) and percutaneous transhepatic cholangiography (PTC). The authors state that although *Escherichia coli* (*E. Coli*), *Enterococcus spp.* and *Pseudomonas aeruginosa* are the most frequently reproducing bacteria in the bile cultures, in time, *E. Coli* incidence seems to have decreased while the incidence of the other two microorganisms steadily increased. And finally they concluded that the first and second step treatment protocols against bacterial infections leading to cholangitis must be updated. We would like to thank the authors for their valuable contribution in this field. However, there are some issues that need to be explained in a detailed manner for a better understanding of the results presented in the manuscript.

First of all, the main disadvantage of this retrospective study is the difficulty of excluding patients that have prior antibiotic prophylaxis. As already seen in the discussion part of the manuscript, the authors do not mentions any exclusion criteria regarding the use of antibiotic prophylaxis prior to the procedures, which is crucial for evaluating the results of this study. Although no accepted consensus has been reached regarding the usefulness of antibiotic prophylaxis before ERCP or PTC, administering antibiotic prophylaxis in patients with biliary obstruction, especially with cholangitis symptoms, is a generally accepted approach in many clinics. The main reason for this is to prevent occurrence of adverse events like pancreatitis and cholangitis. Unfortunately, the efficacy of this approach still remains obscure (2,3). In view of this data, it would be important for the authors to mention whether their patients had a history of prior antibiotic use and discuss the specific effects of prior antibiotics on bacterial types and antibiotic susceptibility of their patient population.

Secondly, in the discussion part the authors speculate that the reason for low reproduction rates in the blood cultures of their patients was due to inclusion of patients who did not have cholangitis. However, while mentioning the limitations of their study the authors state that they could not determine whether the patients who were included in the study had cholangitis. The authors should clarify their inclusion criteria by depicting that they included patients with biliary obstruction who underwent ERCP or PTC and had blood and bile cultures simultaneously regardless of the presence of cholangitis.

In conclusion, we believe that the findings of Suna et al. (1) will lead to further studies regarding the exploration of changes in bacterial types and antibiotic susceptibility in bile cultures and simultaneous blood cultures taken from patients who apply for ERCP and PTC.

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## Author's Reply

To the Editor,

Your comments are valid. We thank the authors for their comments.

In case of discrimination of results between two periods of study; patients that applied antibiotic prophylaxis were similar according to demographic features and clinical aspects like in hilar stenosis and complex biliary obstruction. So we thought that the antibiotic prophylaxis that applied to whole patients were similar effects between two groups. Also because of this high frequency of bacteriobili, even if there is no clinical infection, especially in patients who have hilar stenosis, antibiotic prophylaxis is suggested before percutaneous or endoscopic intervention, which should also take place. In addition, even though the definitive treatment of patients who develop cholangitis resolving the bile stasis, administering suitable empiric antibiotics is an indispensable part of treatment (1-3).

In the study by Minami et al., antibiotics that preferred were cephalosporins which were intrinsically resistant to enterococci. So it is not surprising that enterococci which were predominant bacteria and resistant to selected antibiotics during prophylaxis (4). Additionally in the study by Minami et al. (4), groups were separated in two periods according to guideline suggestions. We think that antibiotic susceptibility profiles of hospital like in surveillance culture results must be taken into consideration during two periods of study. Because endemicity of bacteria and their susceptibility profiles might be different in years to years. Also in case of explanation of acquiring resistance pattern of microorganisms, it must be known prior colonization of patients before the ERCP procedure and their antibiotic susceptibility to same antibiotics. Additionally risk factors for drug resistant bacteria colonization of patients like in antibiotic usage in last months were not considered in that study (4). And hence it is difficult to conclude the antibiotic prophylaxis for ERCP may be disadvantageous according to the study by Minami et al.

Secondly, there was something wrong in english translation of manuscript. It must have been 'In past studies, in patients

with cholangitis, reproduction in blood cultures was reported as 20-80% (5-11). The low reproduction rates in our blood cultures could have been because all cases included both have been cholangitis or not'. Also in last part of discussion, we mentioned that it could not be determined whether the cases that were included in the study had cholangitis as an limitations of study.

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