NON-ANTIBIOTIC TREATMENT IN UNCOMPLICATED ACUTE DIVERTICULITIS: A META-ANALYSIS OF RANDOMIZED TRIALS

Jussara S. Pereira, MD,[1] Patricia M. Viana,[2] Isabelle L. P. Costa,[3] Isadora. S. Guerini,[4] Juan B. L. Vidal,[5] Marcelle de S. Ramos,[4] Nadja L. A. Bispo,[7] Phillip A. S. Avelino,[5] José Augusto R. Penafiel,MD.[6]

[1]Department of Surgery, General Hospital of Goiânia, Goiás, Brazil; [2]Department of Medicine, University of Extreme South of Santa Catarina, Criciuma, Brazil; [3]Department of Medicine, Anhembi Morumbi University, São Paulo, Brazil; [4]Department of Medicine, State University of Western Parana, Parana, Brazil; [5]Department of Medicine, Federal University of Rio Grande do Norte, Rio Grande do Norte, Brazil; [6]Department of Medicine, Federal University of Juiz de Fora, Minas Gerais, Brazil; [7]Department of Medicine, University of Rosario, Rosario, Argentina; [8] Department of Medicine, University of Cuenca/SEK International University, Azuay/Quito, Ecuador.

BACKGROUND

- Despite being used for many years as a standard treatment, the usefulness of antibiotics in acute uncomplicated diverticulitis (AUD) has been a point of controversy.
- Some recent studies show that antimicrobial treatment in immunocompetent patients does not reduce complications or improve recovery time.

METHODS

- We aimed to perform a systematic review and meta-analysis of only studies that compared antibiotic treatment (ATB) versus supporting treatment (No ATB) in patients with AUD until March 21, 2022.
- We searched PubMed, Embase, and Cochrane databases.
- A random-effects model was used.
- Heterogeneity was assessed with I^2 statistics.

RESULTS

- Five studies were included with a total of 1934 patients with 49.8% receiving antibiotics (intravenous or oral).
- All studies used tomographic criteria for diagnosing and classifying acute diverticulitis, with most studies using the modified Hinchey classification as the standard.
- Overall, the pooled analyzes of the studies showed no statistically significant differences in any of the evaluated outcomes: treatment failure, readmission rates, recurrent diverticulitis, and mortality.
- When performing the treatment failure subanalysis only in studies with patients who received initial inpatient treatment (i.e., excluding the only study performed on an exclusively outpatient basis), the analysis shows a higher incidence in patients treated without antibiotics (OR = 1.96; 95% CI 1.16-3.30; p=0.01; I^2=0%).

DISCUSSION

- The most recent Guidelines, as well as previous meta-analyses on the subject, are unanimous in stating, with a strong level of evidence (1a), that there is no benefit in using antibiotics in treating AUD.
- The findings of this study, now with greater statistical power over previous meta-analyses (because it has more RCTs and is exclusively RCTs), reaffirm these recommendations, as it does not show statistically significant differences in any of the evaluated outcomes.
- However, when the DINAMO study is removed from the statistical analysis, all heterogeneity is removed (I^2= 0%). So the result becomes statistically significant, with an amount of therapeutic failure almost 2 times higher (96%) in the group without antibiotics compared to the antibiotic group (OR= 1.96; 95% CI 1.16-3.30; p=0.01; I^2= 0%). In addition to the fact that DINAMO patients received exclusively outpatient treatment, another possible justification for the reduction in sample heterogeneity is the fact that patients were randomized only after symptom control at the Emergency Room (patients who did not control symptoms in 24 hours were excluded from the study, which may have generated a selection bias).

No significant difference between groups in the pooled analysis

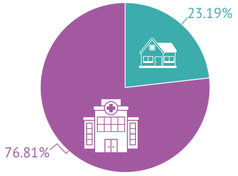
- Treatment failure
- Readmission rates
- Recurrent diverticulitis
- Mortality

ATB vs. No ATB

49.8%

received ATB

Subanalysis in patients on an initial inpatient basis



- AVOD, 2011
- DIABOLO, 2016
- DINAMO, 2021
- Kim, 2019
- STAND, 2020

For patients with AUD treated in an initial inpatient regimen, failure to use antibiotics may increase treatment failure rates.

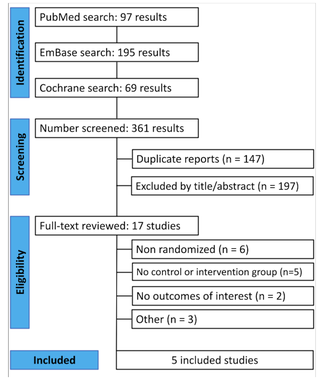
CONTACT INFO:
For more information, email dra.jussarasoares@gmail.com or LinkedIn Jussara Soares Pereira

Hospital Alberto Rassi HGG

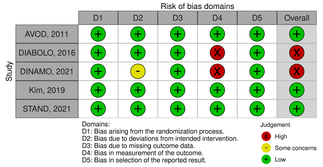
CONCLUSION

- Overall, there is no statistical difference between the treatment of AUD with or without antibiotics.
- For Patients with AUD treated in an initial inpatient regimen, failure to use antibiotics may increase treatment failure rates.

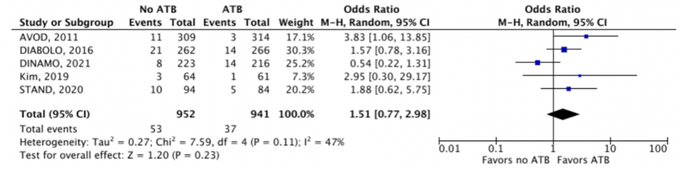
PRISMA flow diagram



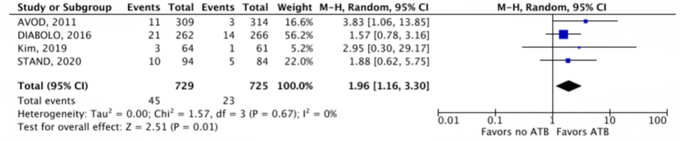
RoB 2 Risk of Bias



Treatment failure in the pooled analysis



Treatment failure only in patients on an initial inpatient basis



DISCLOSURE INFORMATION

The authors do not have any kind of interest.

SAGES 2023 March 29-April 1, 2023 | Montréal, Canada