

ANTIBIOTIC IN FOCUS

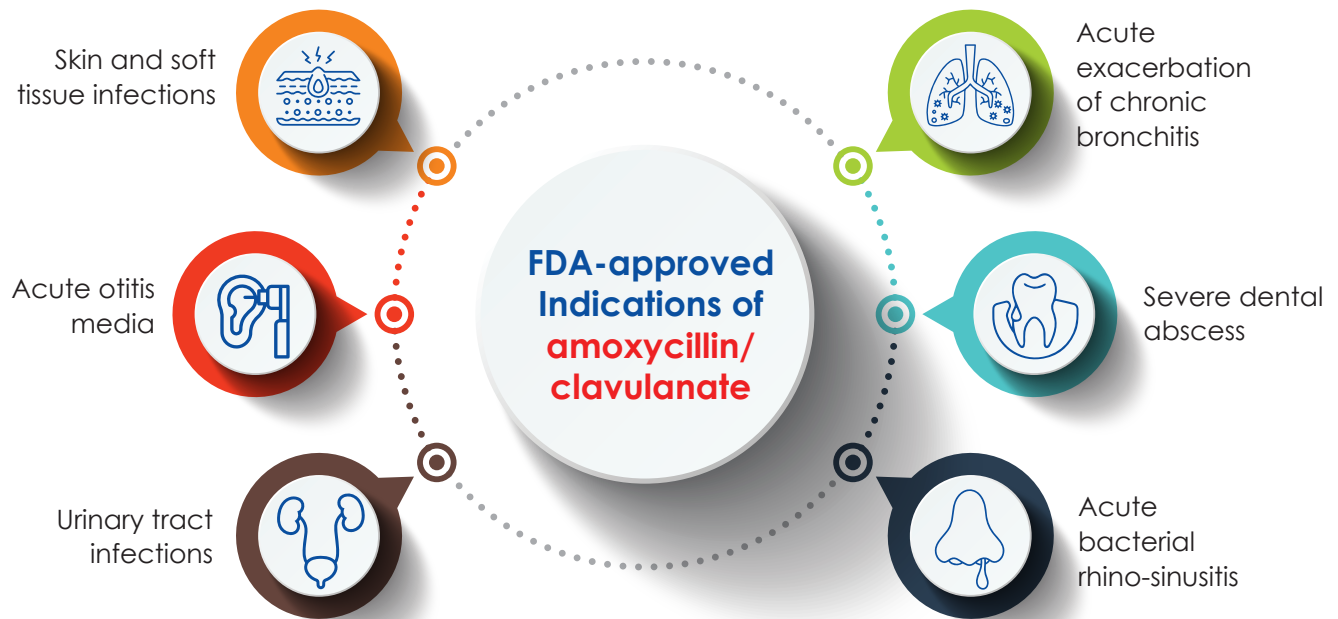


PEEK INSIGHT

- Use and indication of amoxicillin/clavulanate
- Dosage: Amoxicillin/clavulanate 625 mg TID vs 1 g BD
- Amoxicillin/clavulanate versus ciprofloxacin in acute purulent exacerbations of chronic bronchitis
- Effect of amoxicillin/clavulanate compared to cefuroxime on future collateral resistance in hospitalized patients



USE AND INDICATION OF AMOXYCILLIN/CLAVULANATE¹



DOSAGE : AMOXYCILLIN/CLAVULANATE 625 mg TID VS 1g BD

Various treatment regimens are available. The rationale behind the development of different treatment regimens is to increase the time of minimum inhibitory concentration (MIC).

Aim

To compare the bactericidal activity and efficacy of amoxicillin/clavulanate, 875/125 mg (1 g) BD and 500/125 mg (625 mg) TID, against different strains of β -lactamase-producing *H. influenza*²

Methodology

Bacteria at 10^6 colony-forming units (CFU)/mL were exposed to amoxicillin/clavulanate doses of 1 g and 625 mg

Repeated dose was given:

- 12 h after the initial dose of 875/125 mg
- 8 and 16 h after the dose of 500/125 mg

Repeated samples were taken at intervals of 1–2 h up to 24 h for viable counting



Results

After 24 hours, 625 mg TID tends to have greater bactericidal activity compared to 1 g BD

Mean times for which MIC was achieved during 24 hr period with 1g and 625 mg were 42% and 50%, respectively. This shows better efficacy of 625 mg TID regimen

CONCLUSION

Amoxicillin/clavulanate 500/125mg (625mg) TID showed more potent bactericidal activity and appear to be more efficacious compared to 875/125 mg (1g) BD

AMOXYCILLIN/CLAVULANATE VERSUS CIPROFLOXACIN IN ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS (AECB)³



Methodology

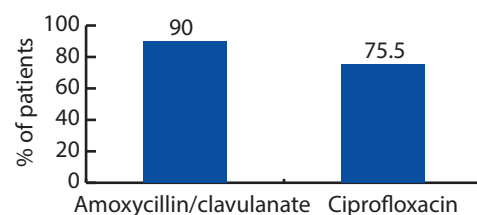
Study design: Retrospective study

Study population: 95 patients (50 patients received amoxicillin/clavulanate 1g TID and 45 patients received ciprofloxacin 500 mg BD for 10 days)

Results

- Marked clinical improvement was demonstrated in the amoxicillin/clavulanate group compared to ciprofloxacin group (90% and 75.5% of patients, respectively; Figure 1)
- At the end of treatment, 84% of strains in amoxicillin/clavulanate group and 57.7% of strains in ciprofloxacin group were eradicated.

Figure 1. Proportion of patients with AECB who showed clinical improvement after treatment with amoxicillin/clavulanate and ciprofloxacin



CONCLUSION

Amoxicillin/clavulanate demonstrated superior clinical and microbiological efficacy compared to ciprofloxacin in patients with acute exacerbations of chronic bronchitis

EFFECT OF AMOXYCILLIN/CLAVULANATE COMPARED TO CEFUROXIME ON FUTURE COLLATERAL RESISTANCE IN HOSPITALIZED PATIENTS⁴



Methodology

Study design: Retrospective analysis

Study population:

Each patient in the amoxicillin/clavulanate and cefazolin groups was matched to a single patient in the cefuroxime group (185:185 and 298:298, respectively)



Results

Cefuroxime induced significantly higher resistance to ceftazidime than amoxicillin/clavulanate [OD : 1.76 (95% CI = 1.16-2.83)] or cefazolin [OD : 1.98 (95% CI = 1.41-2.8)]

CONCLUSION

For prevention of future collateral resistance in hospitalized patients, amoxicillin/clavulanate is preferable to cefuroxime

References: 1. Evans J, Hannood M, Wittler M. Amoxicillin Clavulanate. [Updated 2021 Dec 15]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK538164/>. Accessed on 16/12/2022. 2. Löwdin E, Cars O, Odenholt I. Pharmacodynamics of amoxicillin/clavulanic acid against *Haemophilus influenzae* in an in vitro kinetic model: a comparison of different dosage regimens including a pharmacokinetically enhanced formulation. *Clin Microbiol Infect.* 2002;8(10):646-53. 3. Legnani D, Lombardo VM, Negretto GG, Beghi G, Caratuzzolo O. Comparative clinical and microbiological study of amoxicillin-clavulanic acid and ciprofloxacin in acute purulent exacerbations of chronic bronchitis. *J Hosp Infect.* 1992;22 Suppl A:69-74. 4. Chowdhury M, Zehavi T, Gottesman BS, Baraz A, Nevo D, Obolski U. Estimating the impact of cefuroxime versus cefazolin and amoxicillin/clavulanate use on future collateral resistance: a retrospective comparison. *J Antimicrob Chemother.* 2022;77(7):1992-1995.

R_x **MOX[®] CV** **625
375
1g**
Amoxicillin + Clavulanic Acid

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