Assessing national guidelines for secondary intra-abdominal infection empiric antimicrobial therapy: review of the bacteriology and antimicrobial susceptibility in a Spanish tertiary-level hospital

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Background and Goal of Study

Extended-spectrum β -lactamase-producing Enterobacteriaceae in community-acquired and carbapenem-resistant Enterococcus faecium in health care-associated intraabdominal infection are the main future problems we could face in a near future due to its increasing incidence in our environment. National guidelines for secondary intra-abdominal infection recommend the use of Cefotaxim + metronidazole or β -lactamase inhibitor combination for community-acquired and carbapenem for health care-associated intra-abdominal infection.

The goal of the study is to assess the suitability of the empiric antimicrobial therapy recommended by national guidelines for secondary intra-abdominal infection in our institution.

Material and methods

A retrospective clinical review was conducted in our institution during (2015). We reviewed bacteriology of patients with secondary peritonitis and positive intraoperative culture. We reviewed antimicrobial susceptibility to the main agents used for empiric community-acquired and health care-associated intra-abdominal infection.

Results and Discussion

130 patients with secondary intra-abdominal infection and positive intraoperative culture were identified (83 community-acquired and 47 health care-associated). Enterobacteriaceae species remain the major pathogens in community-acquired infections; 13% of these patients were not susceptible to β -lactam or β -lactamase inhibitor combination.

Isolated Enterobacteriaceae vs Isolated BLEE Enterobacteriaceae in community

BGN Community Antibigram

S (%)	Amika	Ampi	Amoxi-clv	Aztre	Cefta	Cefota	Cefaz	Cipro	Cefe	Cefuro	Genta	Imip	PTZ	Cotri	Tobra
E. coli	95	55	82	87	89	89	77	79	92	84	95	100	84	68	91
Klebsiella	100		100	100	100	100	100	100	100	100	100	100	91	81	100
Enterobac	100			60	58	58		92	100		100	100	58	92	100
Ps. Aerugi	100			20	100			100	100		100	100	100		100

Enterobacteriaceae species also remain the major pathogens in health care-associated infection but Enterococcus species are isolated in 60% of the cases. 25% of these patients were not susceptible to carbapenem because of ampicillin-resistant Enterococcus species.

Health care-associated carbapenem-resistant Enterococcus

S (%)	Ampi	Cefota	Clinda	Dapto	Eritro	Genta	Levo	Line	Tetra	Teico	Vanco
E. Faecalis	87			100	0	60		100	33	100	100
E. Faecium	40				0	67	14	100	33	100	100

Isolated Enterococcus vs Isolated carbapenem-resistant Enterococcus in health care-associated IIA

Conclusions

Community-acquired patients are tolerably covered with the current empiric treatment but high incidence of carbapenem-resistant Enterococcus species demands the use of linezolid, daptomycin or vancomycin.

References

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