CLINICAL AUDIT: ADHERENCE TO EMPIRIC ANTIBIOTIC LOCAL PROTOCOL IN PERITONITIS IN A SURGICAL ICU. ARE WE IMPROVING?

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Background and Goal

Adequate and early empiric antibiotic treatment and surgical source control improves the prognosis of patients with peritonitis. The aim of this second audit is to review the fulfilment of the Local Intraabdominal Infection protocol adapted to local flora approved in 2013 by the Infection and Antibiotic Policy Commission and to compare the results with a previous audit (2015)¹.

Material and Methods

We selected patients with peritonitis admitted at our surgical ICU (January 2015 to December 2016). Following data were collected: age, sex, isolated microorganism in cultures and antibiogram, temperature, hypotension, vasoactive treatment, tachycardia, tachypnea, leukocytosis or leukopenia, mechanical ventilation, renal substitutive treatment, lactate >2mmol/L, high risk factors for worse clinical outcomes, empiric antibiotic treatment and who initiated it. We compared the empiric treatment administered with the local protocol recommendation and the present adherence to protocol with the previous audit.

Community acquired intrabdominal infection	Mild-moderate	Severe	Nosocomial intrabdominal infection	Secondary PERITONITIS	Tertiary PERITONITIS
Sampling in the operating room					
No risks factors for poor outcome	• Amoxicillin-clavulanic acid 2g/8h	• Piperacillin-Tazobactam 4-0.5/6-8h	No risks factors for poor outcome	• Piperacillin-Tazobactam 4-0.5g/6-8h +/- Fluconazole 400-800mg/24h	• Imipenem 1g/6-8h or Meropenem 1g/8h (If Renal Failure) + Vancomycin or Linezolid 600mg/12h + Fluconazole 400-800mg/24h
With risks factors for poor outcome	• Ceftriaxone 2g/24h + Metronidazole 500mg/6h • Ertapenem 1g/24h (risk of ESBL)	• Imipenem 1g/6-8h or Meropenem 2g/8h (if Renal Failure)	With risks factors for poor outcome	• Imipenem 1g/6-8h or Meropenem 1g/8h (If Renal Failure) +/- Fluconazole 400-800mg/24h	
Betalactam antibiotics allergy	• Gentamicin 5mg/kg/24h + Metronidazole 500mg/6h • Tigecycline 100mg firstly and then 50mg/12h (risk of ESBL)	• Tigecycline 100mg firstly and then 50mg/12h + Amikacin 15mg/kg/24h	Betalactam antibiotic allergy	• Tigecycline 100mg firstly and then 50mg/12h + Amikacin 15mg/kg/12h +/- Fluconazole 400-800mg/24h	• Tigecycline 100mg firstly and then 50mg/12h + Amikacin 15mg/kg/12h + Fluconazole 400-800mg/24h

Results

		2013-2014 n= 48		2015-2016 n= 43		δ	p
		Nº	%	Nº	%		
High severity	SIRS (≥2 criteria)	41	85,42	34	79	CI 95% (-0,22 to 0,092)	>0,01
	Need of vasoactive treatment	35	72,92	18	41,86	CI 99% (-0,751 to -0,112)	<0,01
	Lactate > 2	36	75	24	55,8	CI 99% (-0,369 to -0,075)	<0,05
	Protocol fulfillment	25	52	20	46,5	CI 95% (-0,259 to 0,149)	>0,01
Sample obtained during surgery		19	39,5	34	79	CI 99% (0,627 to 0,163)	<0,01

Start of empiric antibiotherapy

Conclusions

We achieved to double the percentage of intraoperative samples. This allows the later correct adjustment of the antibiotic treatment. Emergency and Surgery Units are much more involved and the first dose of antibiotic is given earlier. Actions to improve the fulfilment of the intraabdominal infection protocol must be taken in order to improve the adherence to local guideline. Finally, our protocol should be reviewed to adjust it to the new SOFA criteria².

References:

Adherence to empiric antibiotic treatment in peritonitis in a surgical ICU. Olivera D. The European Anaesthesiology Congress. Berlin 2015
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