O119

2-hour Oral Session

Nystatin versus amphotericin in selective digestive tract decontamination in critically ill patients - a quasi-experimental study

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Objective

To compare amphotericin to nystatin as antifungal components of gastro enteral suspension for selective digestive tract decontamination (SDD).

Methods

SDD was used as standard care in a 32 bed mixed ICU of a Dutch University Hospital. Patients with an expected length of stay of at least 48 hours received SDD until discharge from the ICU.

After 16 months, the antifungal component of gastro enteral SDD suspension was changed from amphotericin to nystatin for a further 15 months. The effects on Candida colonisation were evaluated based on rectum surveillance cultures obtained twice weekly during the entire study from 2011 until 2014. All patients who received SDD and of whom at least two rectum cultures were available as part of the standard SDD microbiological screening were included in the analysis. We excluded patients who received concurrent systemic antifungal treatment.

Primary outcome was the acquisition of Candida colonisation in patients who were not intestinally colonised by Candida at the start of admission. Acquisition was defined as the presence of Candida species in two or more consecutive rectum samples or the presence of Candida in the last available sample.

The secondary outcome was Candida decolonisation in patients who were intestinally colonised by Candida at the start of admission. Decolonisation was defined as the absence of Candida species in two or more consecutive rectum samples or the absence of Candida in the last available sample.

Cox survival regression was used to study the association between the two SDD regimens and the outcome. We adjusted for all co-variables that changed the crude effect estimate of the SDD regimen by more than 10% and patient characteristics that were imbalanced between the two groups at baseline (p value <0.20).

Results

1100 patients were admitted more than 48 hours and had two or more surveillance cultures available for analysis. Of these patients, 736 (76%) were not colonised on admission to the ICU and included in the primary analysis. Intestinal Candida colonisation occurred in 73 of 398 (18%) and 51 of 338 (15%) patients receiving SDD-amphotericin and SDD-nystatin, respectively. This difference was not statistically significant (crude HR 0.72; 95% C.I. 0.50 – 1.03, adjusted HR 0.71; 95% C.I. 0.50 – 1.02). There was no difference in the secondary outcome among the 228 patients that were colonised on ICU admission.

Conclusions

Selective digestive tract decontamination with nystatin was not more effective than SDD with amphotericin in preventing acquisition of Candida species in the lower gastro intestinal tract in ICU patients.

Acquisition of colonisation	**Crude Hazard Ratio [95% CI]**	**Adjusted Hazard Ratio [95% CI]**
Nystatin vs Amphotericin B	0.72 [0.50-1.03]	0.71 [0.50-1.02]
Body Mass Index	-	1.01 [0.99-1.04]
Immune deficiency	-	1.40 [0.82-2.38]
Decolonisation	**Crude Hazard Ratio [95% CI]**	**Adjusted Hazard Ratio [95% CI]**
Nystatin vs Amphotericin B	1.08 [0.75-1.57]	1.07 [0.73-1.58]
Body Mass Index	-	0.98 [0.95-1.02]
Malignancy	-	0.84 [0.47-1.50]
Corticosteroids	-	1.05 [0.55-1.98]
Gender	-	2.30 [1.54-3.43]
COPD	-	0.96 [0.58-1.59]