VENTILATOR-ASSOCIATED PNEUMONIA (VAP) ON PEDIATRIC INTENSIVE CARE UNIT

Introduction Ventilator-associated pneumonia (VAP) is a form of nosocomial infections - pneumonia which occurs in patients who are on mechanical ventilation for longer than 48 hours. It is very often complication on intensive unit care.

Aim To evaluate prevalence VAP on Pediatric intensive care unit (PICU) and the most common causes. Subjects and methods: From March 2009 till March 2011, 42 patients age two months to eight years. Design of study: prospective Patients were divided according to age, gender, time of manifestations VAP, types of microorganism isolated in cultures.

Results From 42 investigated patients 22/42 (52.3%) were females. Patients were divided in the groups according to their age as follows: 0–6 months 9/42 (21.4%), 7–12 months 17/42 (40.4%), 1–3 years 11/42 (24.4%), 4–8 years 5/42 (11.9%) patients. According to time of manifestations VAP: between 48–96 hours of ventilations 14/42 (33.3%) patients, after 96 hours of ventilations 14/42 (33.3%) patients. According to types of microorganisms isolated in cultures: Klebsiella pneumoniae 12/42 (28.5%), Acinetobacter calcoaceticus 7/42 (16.6%), Staphylococcus aureus 7/42 (16.6%), Pseudomonas aeruginosa 4/42 (9.5%), Enterobacter4/42 (9.5%), Stenotrophomonas maltophilia 2/42 (4.7%), unknown 8/42 (19.2%). De-escalation therapy was found in 22/42 (52.3%) patients. Dual antibiotic therapy was found in 22/42 (52.3%) patients. Mortality was 13/42 (30.9%) patients, in group therapy with desescalation 7/13 (53.8%), whereas in the monotherapy group was 8/13 (61.5%) patients.

Conclusion VAP is quite common complication on PICU. Previously taken cultures are very helpful in s timely selection antibiotics and successful recovery.

NONINVASIVE POSITIVE PRESSURE VENTILATION IN INFANTS AND CHILDREN WITH ACUTE RESPIRATORY FAILURE

Introduction To improve the training of medical students in respiratory physiology, we created an interactive cardio-respiratory simulator (SimulResp, figure 1). The objective of our study was to validate the simulator in normal and specific patient conditions.

Methods We run SimulResp (version 2012.03.10.01) with several virtual patients characteristics: sex (M/F), age (8 to 18 years old) and at 2 hrs of NPPV.

Results physiological variables prospectively before NIV and at 2 hrs of NPPV.

Results A total of 109 patients were included. The average of age been of 57.07±57.95 months, we use NPPV for 22 (20%) children with hypercarbic acute respiratory failure (ARF), for 87 (80%) with hypoxic ARF 44 (40%) patients had ARF after extubation. The BiPAP mode was used among all patients. After the second hour of NPPV we observe reduction of respiratory rate (43.72±13.46 b/min vs 34.25±13.47, p<0.01), heart rate (138.66 b/min vs 129.27±24.21, p<0.01) and improvement of the SPO2 (86.17±13.33 vs 94.85±6.9, p<0.01). We listed only 36 (33%) failures which had recourse to the intubation.

Conclusion The NPPV is an interesting technique in PICU and the results are promising. The post-extubation ARF is probably a better indication for NPPV in pediatrics.