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# Etiological structure and antimicrobial resistance of pathogens isolated from patients with ventilator-associated pneumonia

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**Objective:** To investigate the etiological structure and antimicrobial resistance of pathogens isolated from patients with ventilator-associated pneumonia.

**Materials & Methods:** We examined sputum of 49 patients with ventilator-associated pneumonia. The criterion for selection of patients was the duration of mechanical ventilation for at least 48 hours.

**Results:** *Staphylococcus aureus* was found in 33.3% specimens, *Acinetobacter* spp., in 33.3%, *Pseudomonas aeruginosa* in 15.4%, *Klebsiella pneumoniae* in 7.7%, *Candida* in 12.8%, Streptococcus spp., in 2.6% specimens. *Staphylococcus aureus* was sensitive to vancomycin in 100% of cases and to amikacin in 38.5% of cases. All strains of *Staphylococcus aureus* were methicillin-resistant. 100% of strains were resistant to ofloxacin, ciprofloxacin, levofloxacin and 92.3% to clindamicin. Isolates of *Pseudomonas aeruginosa* were sensitive to colistinin 100% of cases and to amikacin in 16.6% of cases. All isolates of *Pseudomonas aeruginosa* were resistant to meropenem, imipenem, cefepime, ceftazidime, cefoperazone, ciprofloxacin. 46.2% of isolates of *Acinetobacter* spp., were sensitive to ampicillin in combination with sulbactam. 92.3% of isolates of *Acinetobacter* spp., were sensitive to cefoperazone-sulbactam. *Acinetobacter* spp., was resistant to amikacin, meropenem, imipenem, levofloxacin, cefoperazone, cefepime and ciprofloxacin. All isolates of *Klebsiella pneumoniae* were sensitive to imipenem, 66.7% of *Klebsiella pneumoniae* to meropenem and amikacin. *Klebsiella pneumoniae* was resistant to amoxicillin, cefotaxime, ceftazidime, ciprofloxacin, cefoperazone, ofloxacin in 100% of cases.

**Conclusions:** Modern epidemiological feature of ventilator-associated pneumonia is the prevalence in the etiological structure of Gram-negative microflora, represented mainly by *Acinetobacter* spp. It is recommended to use vancomycin or linezolid against *Staphylococcus aureus*, colistin against *Pseudomonas aeruginosa*, cefoperazone-sulbactam against *Acinetobacter* spp., and imipenem against *Klebsiella pneumoniae*.

## Biography

Viktoryia Ziamko has graduated from Vitebsk State Medical University. She is currently the Doctor in Vitebsk Regional Hospital. She has published more than 68 papers in reputed journals and other scientific papers.

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