

**TITLE:** RESISTANCE PROFILE OF *ESCHERICHIA COLI* CLINICAL STRAINS ISOLATED FROM PATIENTS AFFECTED WITH VENTILATOR-ASSOCIATED PNEUMONIA

**AUTHORS:** <sup>1</sup>MARTINS, L. R.; <sup>1</sup>SILVA, M.Q.M.; <sup>1</sup>CARVALHO, J.B.R.; <sup>1</sup>PIMENTEL, M.I.S.; <sup>1</sup>GOMES, Y. G.; <sup>1</sup>OLIVEIRA, C.H.; <sup>1</sup>MARINHO, B.O.; <sup>2</sup>ROCHA, I.V.; <sup>1</sup>OLIVEIRA, S.R.; <sup>1</sup>FARIA, D.L.B.

**INSTITUTION:** 1 – CENTRO UNIVERSITÁRIO TABOSA DE ALMEIDA - AV. PORTUGAL, 584 - UNIVERSITÁRIO, CARUARU - PE, 55016-400, BRAZIL. 2 – CENTRO DE PESQUISAS AGGEU MAGALHÃES, CAMPUS DA UFPE - AV. PROF. MORAES REGO, S/N - CIDADE UNIVERSITÁRIA, RECIFE - PE, 50670-420, BRAZIL.

**ABSTRACT:**

Patients who use mechanical respiration to guarantee the maintenance of gas exchange are exposed to high risks, because for those who use this therapy, there is exposure to virulent and opportunistic pathogens, such as some of the Enterobacteriaceae family. In many cases, the onset of mechanical ventilation-associated pneumonia (VAP) is assigned to the tracheal tube, and oral hygiene is used as a method of assisting in the control of potential sources of VAP. It was the objective of this study to verify the involvement of *Escherichia coli* with cases of VAP, as well as its resistance profile. An observational, descriptive and quantitative cross-sectional study was carried out through a census sample, in the year 2019, between January and May, in a hospital in Pernambuco. Samples were collected with the help of swabs from the oral cavity and tracheal tube, and immediately seeded in the culture medium TSB broth, later to be seeded in agar and MacConkey agar for 24h and incubated at 35°C, after the necessary period of time for growth, phenotypic identification was performed based on biochemical tests. For the resistance test, the disc diffusion methodology was adopted and the choice of antibiotics occurred based on the Clinical & Laboratory Standards Institute 2019 (CLSI). The same bacterial species was found in the oral cavity and in the tracheal tube of a patient diagnosed with VAP, with resistance to Ampicillin in combination with Sulbactam, Norfloxacin, Ciprofloxacin and Azithromycin, in addition to the amplified Spectrum Beta-lactamase (ESBL) production, suggesting that the same bacterium initially colonized the oral cavity of the patient and was then taken to the tracheal region where he colonized the ventilation tube, which served as the initial focus of the PAVM, which contributed to an increase in the patient's hospitalization time. The correct hygiene of the oral cavity of the patient is fundamental in the control of a possible colonization, which can aggravate the VAPM, since the possible bacteria that were carried to the oral cavity would not have time to establish themselves, reinforcing the importance of the control as a possible contribution in the reduction of morbidity and mortality rates, preserving the quality of life of the patients involved.

**Keywords:** Ventilator Associated Pneumonia, Hospital, Antibacterial Agents, Opportunistic Infections.