INTRODUCTION

In ICU, the host defense of patients are usually altered because of their underlying diseases, and devices that are used. They can not cough efficiently due to sedation or underlying disease. And also, when they are intubated, the endotracheal tube holds the vocal cords open and facilitates aspiration. ***(Alp and Voss, 2006)***.

Lower respiratory tract infections are among the most common infectious diseases of humans worldwide. In the United States alone, pneumonia and influenza are the sixth leading cause of death. Changes in the characteristics of the population as ges and the swelling number of patients with immunocompromised conditions have increased the number of individuals at risk. An expanded variety of emerging pathogens likewise provides challenges for the microbiology laboratory (***Carroll, 2002).***

Hospital acquired pneumonia; also named nosocomial pneumonia (NP) is defined as parenchemal lung infection occurring after the first 48hours of hospital admission***(Rello and Diaz, 2003).***

Ventilator –associated pneumonia is defined as pneumonia occurring more than 48 hours after patients have been intubated and received mechanical ventilation ***(Steven et al., 2006)***. The incidence of VAP was reported different, depending on the definition, the type of hospital or ICU, the population studied, and the type of rate calculated and varies from 7% to 70% ***(Rosenthal et al., 2003)***.

Ventilator associated pneumonia (VAP) is the leading cause of morbidity and mortality in intensive care units. The incidence of VAP varies from 7% to 70% in different studies and the mortality rates are 20–75% according to the study population. ***(Alp , and Voss 2006).***

Aspiration pneumonia is a type of pneumonia that occurs following aspiration of oropharyngeal secretions and / or gasrric content colonized by pathogenic bacteria. ***(Marik, 2001)***.

Most aspiration pneumonia is polymicrobial and usually includes anaerobes as ***Prevotella melaninognica***, ***Fusobacterium*** *species,* and ***Bacteroides fragilis.*** Anaerobic colonization of the mouth increase in case of periodontal disease and gingivitis while oropharyngeal colonization with gram-negative bacilli as (***Enterobacteriiaceae*** , and ***Pseudomonas)*** and gram-positive cocci as ***Staphylococcus aureus*** is most common ***(Yoneyama et al., 1999)***.

Anaerobic bacteria are considered to be common pulmonary pathogens, and they are believed to play a major role in aspiration and nosocomial pneumonia. ***(Marik & Careau, 1999).***

The potential importance of anaerobic bacteria is underlined by clinical consideration that ventilation associated pneumonia (VAP) is more sever in patients from whom anaerobic bacteria are isolated (***Dore´ et al., 1996).***