CHARACTERIZATION OF MICROORGANISMS ISOLATED IN CULTURES OF PATIENTS IN THE INTENSIVE CARE UNIT
CARACTERIZAÇÃO DE MICROORGANISMOS ISOLADOS EM CULTURAS DE PACIENTES INTERNADOS EM UNIDADE DE TERAPIA INTENSIVA

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ABSTRACT
Objective: to characterize the microorganisms isolated from cultures of patients admitted to an Intensive Care Unit. Method: a retrospective descriptive study, document analysis in 27 records, quantitative approach, performed in the Intensive Care Unit of the University Hospital Lauro Wanderley/UFPB/João Pessoa/PB, Northeast of Brazil, after the project was approved by the Ethics and research protocol 489/11. Results: crops totaled 136 samples, 53 blood (39%), 51 urine (38%) and 32 tracheal aspirates (23%). Of the 53 samples from blood cultures, 38(72%) revealed no bacterial growth, 9(17%) showed bacterial growth and 6(11%) evidenced contamination of the collected material. In 32 tracheal samples was obtained that showed bacterial growth in 19 (60%), 10 not shown (31%), which showed infection and three (9%), Conclusion: it is important to raise awareness of the members of the healthcare team in order to select the best antibiotic intended for that microorganism and develop practices based on aseptic techniques. Descriptors: Intensive Care Units; Infection; Microbiology.

RESUMO
Objetivo: caracterizar os microorganismos isolados em culturas de pacientes internados em uma Unidade de Terapia Intensiva. Método: estudo descritivo retrospectivo, de análise documental em 27 prontuários, de abordagem quantitativa, realizado no Centro de Terapia Intensiva do Hospital Universitário Lauro Wanderley/UFPB/João Pessoa/PB, Nordeste do Brasil, após a aprovação do projeto pelo Comitê de Ética e Pesquisa, protocolo 489/11. Resultados: as culturas totalizaram 136 amostras, sendo 53 de sangue (39%), 51 de urina (38%) e 32 de secreção traqueal (23%). Das 53 amostras de hemoculturas, 38(72%), não revelaram crescimento bacteriano, 9(17%) revelaram crescimento bacteriano e 6(11%) evidenciaram contaminação do material coletado. Nas 32 amostras de secreção traqueal, obteve-se 19 que revelaram crescimento bacteriano (60%), 10 que não revelaram (31%), e três que evidenciaram contaminação (9%). Conclusão: torna-se importante a conscientização dos membros da equipe de saúde, no sentido de selecionar o melhor antimicrobiano destinado àquele microorganismo e de desenvolver práticas baseadas em técnicas assépticas. Descriptors: Unidades d Terapia Intensiva; Infeção Hospitalar; Microbiologia.

RESUMEN
Objetivo: caracterizar los microorganismos aislados en cultivos de pacientes ingresados en una Unidad de Cuidados Intensivos. Método: estudio descritivo retrospectivo, de análisis documental en 27 registros de abordaje cuantitativo, realizado en la Unidad de Cuidados Intensivos del Hospital Universitario Lauro Wanderley/UFPB/João Pessoa/Paraíba, al noreste de Brasil, después de que el proyecto fue aprobado por el Comité de Ética y investigación, protocolo 489/11. Resultados: los cultivos sumaron un total de 136 muestras, 53 de sangre (39%), 51 de orina (38%) y 32 de secreción traqueal (23%). De las 53 muestras de cultivos de sangre, 38 (72%) no revelaron el crecimiento bacteriano, 9(17%) mostraron crecimiento bacteriano y 6(11%) mostraron contaminación del material recogido. En 32 muestras de secreción traqueal se obtuvo que mostraron crecimiento bacteriano en 19(60%), 10 no se muestra (31%), y tres mostraron la infección (9%). Conclusion: es importante la concientización de los miembros del equipo de salud, con el fin de seleccionar el mejor antibiótico destinado a ese microorganismo y desarrollar prácticas basadas en técnicas assépticas. Descriptors: Unidades de Cuidados Intensivos; Infección Hospitalaria; Microbiología.

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INTRODUCTION

With scientific advances and intense technological development, care for the critically ill patients have become increasingly specific, complex and especially challenging. By submitting demands intensive care, this audience requires careful monitoring and assistance for their clinical front.

The Intensive Care Units (ICUs) emerged as a fundamental tool for the treatment of seriously ill people, providing human resources and specialized materials for preservation and recovery of clients’ lives. Since these sectors hospital for the treatment of critically ill patients, the ICU institutional settings are responsible for approximately 20-30% of nosocomial infections related to the environment. It is also estimated that the morbidity associated with these infections represent 25% of deaths in this industry, these numbers may increase depending on the type of ICU, the patient profile, clinical severity and frequency of invasive procedures, and other factors such as the use of immunosuppressive therapies and antimicrobial, excessive handling of patients, surveillance regime of the institution and low staff adhere to protocols for infection control.

Another key factor is to the selection of microbial resistance has intensified, especially in the ICU mainly due to the arbitrary and indiscriminate use of antimicrobial therapy is an important focus of attention, justifying the need to popularize actions to steer assertive behaviors. Thus, as already mentioned, the Intensive Care Unit (ICU) have shown high rates of nosocomial infections, including the occurrence of multiresistant microorganisms.

The increasing emergence of resistant microorganisms has made great concern worldwide for its many consequences, such as increased length of hospital stay, cost of treatment and the risk of death of patients. CTIs are classified as true cores emergency multiplication of microbial resistance, since they have the following features: a) unit restricted / closed, with high frequency of patient-professional contact, b) greater possibility of cross transmission of pathogens (reduced by adherence to handwashing frequency and quality and work overload) and c) high selective pressure by frequent use of broad-spectrum antimicrobial.

Moreover, research shows that rates of nosocomial infection (NI) in CTI vary between 18 and 54%, with about five to ten times higher than in other inpatient units of a hospital. This factor is also responsible for 5 to 35% of all nosocomial and comprises about 90% of all outbreaks these units. The high mortality rates in ICUs, commonly ranging between 9% and 38%, can reach 60% due to the occurrence of IH.

In this context, this study aims to:
- To characterize the microorganisms isolated from cultures of patients admitted to an Intensive Care Unit.
- To relate these microorganisms with the organic systems which affect.
- To quantify samples showed contamination is in the collection, storage, distribution and conservation.

METHOD

A retrospective descriptive study, document analysis, variables were treated based on a quantitative approach, performed in the Intensive Care Unit of the Lauro Wanderley University Hospital of the Federal University of Paraíba (CTI / HULW / UFPB), particularly in the general ICU (adult) because it is the main practical scenario of Residents emphasis on Critical Patient Care, by constituting the hospital sector with greater flow of severely ill patients because it is a hospital that has great representativeness front nosocomial infections.

The study included the records of patients aged 18 years and of both sexes, who were hospitalized in the ICU general HULW in the interval between the months of August and November 2011, with date of admission from the range mentioned. The sample, the test results of bacterial cultures of blood, tracheal aspirates and urine cultures because they are most commonly performed in the sector studied and documented in the record book cultures that sector. Such cultures are the most common tests collected in the Intensive Care Unit study.

Were excluded from the study records of patients aged below 18 years who were hospitalized in the ICU for a period not HULW between August and November 2011. Were also excluded the records of patients during their hospital stay did not perform tests concerning the bacteriological culture of blood, urine and tracheal aspirates.

Data were collected from medical records selected readings in advance, according to the existing criteria, where from where they were extracted information relevant to the object of study. Then we tried to confirmation by the laboratory responsible for the collection of tests, through the search and subsequent printing of results from the application
number of each exam. Later we built a database of information with quantitative data to support analytic and synthetic inferences throughout the research.

The sample consisted of 27 records, because it is the number of patients admitted to the unit during the selected period studied, having been submitted to the examination of cultures and because it is the number of tests documented in the book of records of the adult ICU. Were then analyzed based on simple statistics, starting from the right that was investigated only one variable.

The research followed the standards and guidelines set forth in Resolution 196/96 which regulates research involving human subjects. This study was operationalized after approval by the Ethics and Research of the University Hospital Lauro Wanderley (HULW / UFPB) under protocol number 489/11.

RESULTS AND DISCUSSION

♦ Characterization of cultures

The results showed that the cultures reached 136 samples, blood and 53 (39%), 51 urine (38%) of tracheal and 32 (23%). It is observed that the blood culture showed a higher frequency. Accordingly, ensures that a patient with febrile events, regardless of the presence of signs and symptoms of topology, comprises examining blood cultures most important and most commonly used when it is desired to highlight certain infection, in that in addition to the diagnostic value the identification of a microorganism from a blood sample provides information to guide the therapy.7

♦ Qualifying blood cultures

The study reveals that of the 53 samples from blood cultures, 38 (72%) revealed no bacterial growth, 9 (17%) showed bacterial growth and 6 (11%) samples showed contamination of the collected material.

It is noteworthy that despite a low percentage of cultures with bacterial growth (17%), this result becomes important because it is a UTI, which are fragile and critically ill patients, with greater difficulty of recovery. Another aspect not to be overlooked is the fact that (11%) blood culture contamination present, leading us to infer that there was problems with sample collection, worrying aspect, given the importance of this result for the patient's treatment.

With respect to bacterial growth, to identify the causative agent of bacteremia, antibiotic therapy becomes more effective, and can shorten the coefficient of hospital mortality of patients. However, when certain frames bacteremia show up evolved in severity, the doctor makes use of a broad-spectrum antibiotic therapy, even not knowing the etiological agent of that framework.8 Thus, it is recommended to take blood cultures for all suspected cases of bacteremia, especially when the patient's admission to hospital, this routine often delayed or even overlooked in many institutions.

♦ Characterized the microorganisms isolated in blood cultures showed that bacterial growth

Cultures that showed bacterial growth, the three revealed Pseudomonas aeruginosa (34%), 2 showed the microorganism Citrobacter freundii (22%), one has yeast germ growth (11%), one showed the presence of Escherichia coli (11%) , one has the form Streptococcus pneumoniae and revealed the presence of Streptococcus haemolyticus not group A.

The incidence of blood cultures which showed growth of Pseudomonas aeruginosa can be explained by their minimal nutritional factors that shape bacterial requires for its maintenance in the environment, contributing greatly to its perpetuation as an opportunistic agent. This is a gram-negative non-fermenting sugar belonging to the family Pseudomonaceae and has great versatility, with preference for humid, and can be found in many different environments, such as the soil, water and humans, particularly in regions of the body higher humidity as the ear, axilla and perineum. Moisture configures a determining factor for the maintenance of bacterial reservoirs so in hospital environments, being isolated with ease in cleaning solutions, respiratory equipment, medicines, disinfectants and sinks. In the human organism, Pseudomonas aeruginosa infections cause important, particularly in immunocompromised individuals, possessing often a broad spectrum of resistance to antibiotics of different classes.9

Therefore, while P. aeruginosa is a part of the normal microbiota of individuals, however, hospitalized patients experience a high rate of colonization by this bacillus, increasing with the length of stay in the hospital and with the use of antibiotics. However, despite all the technological advances in the field of health, infections by P. aeruginosa are still cases of high morbidity and mortality rates.10-11

The second bacterial form most commonly found in the samples comes from the Citrobacter freundii, belonging to the genus Citrobacter. It is a gram-negative bacterium
belonging to the family Enterobacteriaceae. It is responsible for a variety of actions on the environment in which it is presented, can be found in soil, water, sewage, food and mainly in the intestine of humans, and is considered one of the most common bacterial forms. The Citrobacter freundii is responsible for causing different types of nosocomial infections, mainly affecting people who already have little immunity, especially in hospitals, the most common places where such infections may be present.12

♦ Qualifying cultures of tracheal aspirates

The study raised a total of 32 samples of tracheal secretion resulting in bacterial growth revealed that 19 (60%), 10 samples showed no bacterial growth (31%), and 3 samples showed contamination of the collected material (9%).

It is observed that for the culture of tracheal aspirate the percentage of bacterial growth is high. And once again appeared the contamination factor. Although smaller in number than in the blood culture in greatly concerned, since aseptic technique need for greater accuracy of the result.

The respiratory tract infections (RTI) are one of the most common health problems both in the community and in the hospital. The etiologic agents of RTI, even common infections are becoming increasingly resistant to existing antimicrobial agents in medical practice.13 In this context, and pathogenic microorganisms that cause infections of the respiratory tract have contributed effectively to trigger systemic processes admittedly serious and increasingly complex treatment.

In patients intubated or tracheostomy, the endotracheal aspirate (TA) is an easy exam and low cost; provides material for bacterioscopy, initial assessment, guiding therapy in the first instance. This technique is shown to be sensitive, but low specificity. Allows you to record the local macrobiotic and establish the profile of antimicrobial susceptibility. Has a high negative predictive value for pneumonia.14

The great difficulty in which collide health professionals are the problems related to contamination of the samples therefore the passage of suction catheter through the pathway of endotracheal tubes, these passages heavily colonized, making interpretation of results of cultures result in contamination of the sample. Thus the nursing staff have an important role in controlling the spread of these microorganisms in the ICU, they are responsible for direct patient care critical when performing invasive procedures or even the reprocessing of used items.15

Noteworthy is also the tracheostomy, which become rapidly colonized with numerous microorganisms, especially gram-negative, however, such agents pose little when it comes to the etiologic diagnosis of nosocomial pneumonia. Faced with this problem, it is recommended that the collection of tracheal be used only for research colonization by multidrug-resistant and epidemiological evaluation, under the Commission's statement of Infection Control (CCIH) of the institution.

♦ Featuring the microorganisms isolated in cultures of tracheal aspirates revealed that bacterial growth

Cultures of tracheal secretions that showed bacterial growth, 13 showed the agent Acinetobacter baumannii (69%), 3 showed growth of yeast germs (16%), one showed the microorganism Klebsiella spp (5%), one showed the presence of Pseudomonas aerations (5%) and revealed the presence of coagulase negative staphylococci (5%).

Among the microorganisms present in most cultures of tracheal secretions has the Acinetobacter baumannii, constituting the most common species of the genus isolated from clinical specimens and hospital environment. For a long time this was considered low pathogen virulence, but is seen in contemporary as an important pathogen that affects hospital critically ill patients, especially ICU patients.16

The species A. baumannii can survive long periods in dry environments, and develop resistance to many drugs, contributing to their spread in the hospital setting, characterized also as a bacterium that has the capacity to develop antimicrobial resistance quickly. Primarily responsible for contributing to the speed of the bacteria to develop resistance, are the practices in ICUs, given that this sector of the hospital antibiotic use by patients and surface area are representatively more frequent.16

The yeast cells appear second in incidence of tracheal samples. Such cells correspond to fungi that can trigger fungal infections in hospitals. Thus, Candida is the main genre of yeasts, featuring one of the most frequent causes of nosocomial infection. However, pulmonary infection is uncommon, especially in regard to the form of primary pneumonia. Candida albicans is the most common species (50-70% of cases), followed by Candida tropicalis that has special tropism kidney, and Candida parapsilosis, which is reproduced in

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glucose solutions and provides grip for plastic material (vacular catheter, parenteral nutrition, etc.)

Candidiasis may result from pulmonary aspiration: bronchopneumonia primary form, or hematogenous: secondary form. Candida albicans is part of the normal flora of the digestive tract, which facilitates their migration to the lower airway, explaining how often is isolated in samples from the respiratory tract, especially in patients who use corticosteroids and antibiotics. Moreover, the pulmonary parenchyma is not conducive to the proliferation of Candida. The non-albicans species obtained are usually iatrogenic by intravenous equipment.

The third was the microorganism most frequently found Klebsiella spp. This species is found in nature, may also be present in soil, water and mucosal surfaces of mammals. The locations where commonly colonize the human body is the respiratory tract, gastrointestinal and genitourinary tracts. The Klebsiella spp presents numerous virulence factors, such as extracellular capsules that configure a pack of fibrillar structures responsible for involving the bacterial surface in massive layers, giving protection to the bacteria against phagocytosis by polymorphonuclear cells and preventing bacterial killing by serum factors via complement-mediated cascade. Klebsiella spp still has the ability to sequester iron from the environment through their sideropores secreted, or enterololine and aerobactin and have great affinity for chelating low molecular weight and competing ligand to the iron protein.

The latter agent is isolated from the coagulase-negative Staphylococcus (CoNS), which is a microorganism of the skin macrobiotic, which causes frequent infections in recent years, has been acknowledged as one of the most microorganisms associated with nosocomial infections. Were classified as simple and harmless pathogens capable of infecting only biological samples of little value. Progressively become opportunistic agents, triggering localized inflammatory processes in newborns and immunocompromised patients with orthopedic grafts, neurosurgical patients with central venous catheters, and peritoneal catheters in patients using total parenteral nutrition (TPN). The CoNS is also responsible for causing urinary tract infections, surgical wounds and osteomyelitis, revealing itself as an etiological agent in chronic situations. Such infections may arise located after a period of latency, such as months or years after the installation of an orthopedic prosthesis or artificial valve.

### Qualifying urine cultures

The study has raised a total of 51 samples for urine culture, resulting in 34 samples that showed no bacterial growth (67%), which showed bacterial growth in 13 (25%) and 4 samples showed that contamination of the collected material (8%).

The genitourinary tract can be colonized by many pathogens, which may be bacteria, viruses and fungi. The question related to the invasion of the agent should be paid to the history of the infection, the use of antimicrobial agents, predisposing factors related to the host (congenital or obstructive causes localized in the urinary tract) and the handling of the urinary tract, with most of infections caused by gram-negative bacteria.

Thus, the qualitative analysis and urine culture (urine culture) are the most widely used laboratory techniques for the diagnosis of urinary tract infections, urine culture being the method of choice to investigate the infection.

The quantitative urine culture is the primary method of diagnosing a urinary tract infection, as well as evidence the multiplication of bacteria, to isolate the causative agent, and facilitates the study of its sensitivity from antibiotics. It is considered that there is a positive quantity greater than or equal to hundred thousand colony forming units (CFU) bacterial each milliliter of urine collected correctly. However, this technique reproduces some disadvantages such as the diagnostic delay and high cost.

### Characterized the microorganisms isolated from the cultures that showed bacterial growth in urine

Urine cultures showed the greatest diversity of pathogens isolated from the remaining. Of the samples that showed bacterial growth, 5 showed growth of yeast cells (38%) 2 showed an increase of pseudomonas aerations (15%) 2 revealed the microorganism Klebsiella pneumoniae - Kpc (15%), one showed the presence of Proteus vulgaris - ESBL + (8%) revealed the presence of one Scherichia coli (8%), one has Klebsiella pneumoniae - ESBL + and showed the presence of Enterococcus faecalis (8%).

This showed that after studied yeast cells, Pseudomonas aerations represented the most common species found in the urine samples that showed bacterial growth studies, however, demonstrated that the causative agent of the most common infections of the urinary tract is Escherichia coli, verified about
80% to 90% of acute bacterial infections and considered uncomplicated.  

Studies show that when infections occur in the presence of anatomical abnormalities or chronic catheterization, bacteria usually present a spectrum infecting greater than in other cases. The vast majority of infections of the urinary tract occurs in the presence of Escherichia coli, but can also occur from other gram-negative rods (Klebsiella, Pseudomonas, Enterobacter, Proteus), and enterococci and staphylococci, confirming the results found in this investigation.  

The yeast cells have great clinical importance because of its high frequency of infection and colonization of the human host. Approximately 30% of women have vaginal colonization by Candida friendly environment of moisture, and the hospital environment Candida accounts for approximately 80% of fungal infections recorded, representing a problem while it is responsible for causing systemic infections that compromise visceral portions from hematogenous spread and usually documented infectious complications in critically ill patients and patients with degenerative or neoplastic.  

The third most commonly found pathogen was producing Klebsiella pneumoniae carbapenemase (KPC), these bacteria produce an enzyme that confers resistance to antimicrobial carbapenems (meropenem, ertapenem, imipenem), and inactivates some classes of antimicrobials, such as penicillins, cephalosporins and monobactams. Apart from producing Klebsiella pneumoniae carbapenemase (KPC), KPC can be identified in other bacteria, such as K. pneumoniae, Enterobacter cloacae, Citrobacter freundii, Salmonella spp., E. coli, Pseudomonas spp.  

The resistance of this pathogen in recent years has become a serious public health problem, worrying, especially health professionals. News about deaths caused by the bacterium Klebsiella pneumoniae carbapenemase producing enzyme (KPC), provoked alert states in various regions. According to records of the Ministry of Health, the Federal District were identified 187 reports of infection in 2010, with 18 deaths recorded. In São Paulo, Clinical Hospital recorded 70 cases since 2008.  

Other bacterial species identified in urine samples was ESBL + Klebsiella pneumoniae is responsible for producing an enzyme known as extended spectrum beta-lactamases, beta-lactam antibiotics capable of degrading constituting a class often used in the treatment of severe infections. Prime examples of these antimicrobials are administered broad spectrum cephalosporins (ceftazidime, cefepime, cefotaxina, among others) and carbapenems, previously mentioned.  

Contaminated cultures for breach of aseptic technique or process failure storage, preservation and distribution  

Of samples totaled 136, 123 showed free from contamination of any kind (90%) and 13 showed contamination of the sample (10%), whether for breach of aseptic technique during collection or failures in the process of conservation and distribution to reach the recipient laboratory for processing.  

The set of procedures that will transport the collection of clinical sample resulting in the identification of the etiologic agent of a given infection and the susceptibility profile of this forms the basis of microbiological research. Thus, it is crucial that the standardization of these steps in order to optimize the use of resources based on the microbiological quality of the results and rationing of material resources. The negative impact of an inadequate collection can generate waste of resources used and erroneous results directly affecting the diagnosis, treatment and cure of the patient.  

The collection of all material for microbiological research should preferably be made prior to any change in antimicrobial therapy, the material collected should be sufficient to represent the suspected infectious process, electing the best place for collection, to be held from aseptically. For this to happen, the samples must be forwarded to the laboratory in jars for each type of secretion or body fluid obtained, the packing it properly so that no leakage during transport. It is essential that the material to be analyzed is forwarded as quickly as possible to the laboratory, because the sooner starts processing the samples, the greater the chances of rescuing the etiologic agent and the greater the benefits for the patient. Samples of blood, urine and tracheal can up to thirty minutes to be processed.  

Thus, the interpretation of a result of blood culture, one of the biggest difficulties is given microorganism isolated clarify whether it is or not a contaminant, given that contamination can occur from the preparation through to the final processing of the sample.  

Thus, it points to the existence of two indices used to quantify the contamination of a material: the total number of contaminated samples / total number of samples (being the maximum allowed value of 3%) and number of...
contaminated samples / number of samples positive (the maximum being 25%), where the first ratio assesses how the data was collected, and the second, as it was processed. Therefore, it is prudent to undertake implementation of aseptic technique with 70% ethanol or chlorhexidine alcoholic, since the skin is an important site of contamination.

In the case of urine culture, to occur one semiotic proper interpretation of urine culture is essential to have a representative sample and the laboratory methods are carefully performed.

As the urine sample is quick and easy to obtain, either in patients catheterized or not, can induce a certain carelessness in the treatment of the sample after collection, because this material undergoes changes “in vivo” and “in vitro”, requiring correct techniques for handling it. It is common to route the bottle with the sample hours after its collection, usually after long residence time at room temperature. Thus, when processing the urine is delayed, there is bacterial contamination massive lysis of erythrocytes and leukocytes, alkalization and dissolving of cylinders. To avoid such problems, it is recommended that the sample be analyzed within 1-2 hours maximum, and the material unable to follow such criteria should be refrigerated at 4°C for up to four hours, always in a sterile container.

When it comes to culture of tracheal aspirate, one of the major difficulties is the lack of specificity of this test for diagnosing, especially pneumonia, is questionable as to its usefulness because the airways are a site with high germ contaminants, making it difficult to research bacterial secretion recruited in this test so the incidence of contamination in these species characterizing them as pathogens causing infection in addition to explaining the incidence of samples for culture that became unfeasible for reasons of contamination. However, in order to enable these procedures need to conduct accurate and focused mainly on the proper form for the acquisition of samples to be analyzed.

Based on the foregoing, the present study was relevant to identify and represent the profile of the etiologic agents most commonly found in cultures of blood, urine and tracheal aspirates from patients admitted to the general ICU of the University Hospital Lauro Wanderley, to draw a quantitative survey of these species characterizing them as pathogens causing infection in addition to explaining the incidence of samples for culture that became unfeasible for reasons of contamination.

In this sense it is important to raise awareness of all members of the health team, in order to be properly select the best antibiotic intended for that specific microorganism, is to develop routines and practices based on aseptic techniques, emphasizing handwashing as a component key in the prevention of infections.

CONCLUSION

Advances in the field of medicine, especially in high complexity have increased survival of severely ill patients from procedures and equipment to facilitate the identification of situations and conditions that impact positively on the prognosis of these people. However, a major concern of health professionals and institutions remains the nosocomial infection that permeates the technological development and the therapeutic arsenal because it interfaces with the multidisciplinary approach to involve the entire health team to identify risk factors and procedures for appropriate steps are taken to control, and good care practices.

Bacterial forms found in contemporary have proved to be extremely pathogenic opposite to their ability to acquire resistance to antibiotics, so that this resistance has occurred faster than the speed of the pharmaceutical industry to produce new drugs resulting in increasingly resistant strains and replies Clinical increasingly unreliable.

In this context, the examination of bacteria have been shown to be an important ally in the process of clarifying and isolation of these agents in the laboratory, such as definitive proof of the diagnosis of infection and the establishment of antimicrobial susceptibility to these pathogens, contributing to the reduction and control of microbial resistance. However, in order to enable these procedures need to conduct accurate and focused mainly on the proper form for the acquisition of samples to be analyzed.

Based on the foregoing, the present study was relevant to identify and represent the profile of the etiologic agents most commonly found in cultures of blood, urine and tracheal aspirates from patients admitted to the general ICU of the University Hospital Lauro Wanderley, to draw a quantitative survey of these species characterizing them as pathogens causing infection in addition to explaining the incidence of samples for culture that became unfeasible for reasons of contamination.

In this sense it is important to raise awareness of all members of the health team, in order to be properly select the best antibiotic intended for that specific microorganism, is to develop routines and practices based on aseptic techniques, emphasizing handwashing as a component key in the prevention of infections.

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