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ABSTRACT

This study was conducted with specific objectives of isolation and identification of bacteria associated with Anesthetic apparatus used during operations or intubations in intensive care units.

Two hundred samples were collected from ten different sites of Anesthetic apparatus, Twenty specimens were taken from each sites were considered sterile and ready to use. The duration of samples collection was between (March 2001 – October 2002). Twenty specimens were taken from each site. The samples were collected from the major emergency complex theatre at Ribat University Hospital and the major theatre of Sahiroon Hospital in Khartoum state.

Bacteriological examinations were performed in the microbiology laboratory, Department of Microbiology, Ribat University Hospital and Central Vet. Research Lab. Center, Soba.

Both Gram-positive and Gram-negative bacteria were isolated, identified and differentiated using standard different biochemical reactions.

The Gram-positive isolates were *Staphylococcus spp., Micrococcus spp*. and *Bacillus spp*.The Gram negative isolate were only *Pseudomonas*.

The commonest bacteria that contaminate the Anesthetic apparatus were *Pseudomonas spp.* (60.37%), *Micrococcus spp.* (20.75%) and *Bacillus spp.* (18.38%).

The antibiotic Sensitivity tests were done for each isolated strain.

Pseudomonas spp. were (100%) sensitive to Amickacin, Pefloxacin and Ciprofloxacin and (72.7%) sensitive to Ofloxacin and (100%) resistant to Ampicillin, Cefoperazone, Piperacillin, Ceftazidime Ceftizoxime, Augmentin, and (72.7%) resistant to Cefotaxime and Gentamicin .

Micrococcus spp. were (85.7%) sensitive to Ciprofloxacin and (71.4%) sensitive to Gentamicin, Ofloxacin and Pefloxacin, intermediately sensitive to Ceftriazone. They were found to be (85.7%) resistant to Cephalexin, (71.4%) to Ampicillin, and Lincomycin and (57.1%) resistant to Roxythromycin and Cefotaxime.

Bacillus spp.were (100%) sensitive to Gentamicin and Ciprofloxacin, (85.7%) to Roxythromycin, (71.4%) to Ofloxacin and Pefloxacin and intermediately sensitive to Cephalexin and Ceftriazone .They were on the Other hand found to be (85.7%) resistant to Ampicillin and (57.1%) to Cefotaxime and Lincomycin.

ملخص الأطروحة

اجريت هذه الدراسة بهدف عزل وتعريف البكتريا المصاحبة لتلوث معدات وأجهزة التخدير المستعملة في العمليات الجراحية وحدات العناية المكثفة

تم جمع مائتي عينة من عشرة اجهزة مختلفة من معدات و اجهزة التخديرالمعقمة المعدة للاستعمال. بمعدل عشرون عينة لكل جهاز من أجهزة التخدير المختلفة جمعت العينات من الفترةمن) مارس 2001م-اكتوبر 2002م(. من مجمع العمليات الجراحية والعناية المكثفة بمستشفى الرباط الجامعى و ساهرون التخصصى بولاية الخرطوم.

أجريت كل الاختبارات البكترية بالمواصفات الفنية المثلي في معمل الأحياء الدقيقة بمستشفى الرباط الجامعى ومركز معامل الأبحاث البيطرية المركزية –سوبا.

عزلت وعرفت جميع البكتريا الموجبة لصبغة غرام والسالبة لصبغة غرام باستخدام التفاعلات الكيميائية الحيوية المثلي.

البكتريا الموجبة لصبغة غرام والتي عزلت تحتوي على المكورات العنقودية والمكورات السبحية والمايكروكوكس والباسليس.

البكتريا السالبة لصبغة غرام والتي عزلت تحتوي على نوع سودوموناس فقط (الزائفة الزنجارية).

أثبتت الدراسة أن معظم البكتريا التي تصاحب تلوث أجهزة التخدير و اجهزة التنفس الصناعى بالعناية المكثفة من نوع سودوموناس (*Pseudomonas*) بنسبة 60.37%) ويليها المكايكروكوكس) *Cocci*) (بنسبة (% 75.20) ثم الباسليس *Bacillus*)) بنسبة (38.18%).

ثم أجريت لكل عينة اختبارات حساسية المضادات الحيوية والتي أثبتت الدراسة بان سودوموناس (*Pseudomonas*) االمعزولة حساسة لمضاد اميكاسين (Amikacin) و سبروفلكساسين Ciprofloxacin)) و بيفلوكساسين (Pefloxacin (بنسبة (100%) و حساس لمضاد افولكساسين (Ofloxacin) بنسبة (72.7%) و مقاوم لمضاد امبيسلين (Ampicillin) و سيفوبرازون (Cefoperazone) وبيبراسيلين (Piperacillin) و (Ceftazidime) وسفتازدايم وسيفوتاكسيم (Ceftizoxime) و او قمنتين (Augmentin) بنسبة 100%)) ومضاد جنتاميسين (Gentamicin) وسفتاكسايم (Cefotaxime) بنسبة (72.7%).

اما المايكروكوكس *Micro Cocci*) (حساسة لمضاد سبروفاكاسين Ciprofloxacin)) بنسبة (85.7%) واوفلكسين (Ofloxacin) و بيفولكسين (Pefloxacin) وجنتمايسن (Gentamicin) بنسبة (71.4%) وسفتازون (Ceftriazone) بنسبة (57.1%) ومقاومة لمضاد سفالكسين (Cephalexin) بنسبة (85.7%) ولمضاد امبسلين (Ampicillin) ولانكوماسين (Lincomycin) بنسبة (71.4%) و لمصاد اروثرومايسين (Roxythromycin) و سفتاكسايم (Cefotaxime) بنسبة (57.1%).

اما الباسليس (*Bacillus*) حساسة لمضاد سبروفلوكاسين (Ciprofloxacin) و جنتاماسين (Gentamicin) بنسبة (100%) واريثرومايسين (Roxythromycin) بنسبة (85.7%) وتمضاد افولكسين (Ofloxacin) وبيفلوكسين (Pefloxacin) بنسبة (71.4%) و لمصاد سفالكشين (Cephalexin) وسفتازون (Ceftriazone) بنسبة (57.1%). ومقاومة لمضاد امبسلين (Ampicillin) بنسبة (85.7%) ومضاد لانكوماسين (Lincomycin) وسفتااكسايم (Cefotaxime) بنسبة .(57.1%).

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