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Abstract

This study was carried out to assess the level of bacterial infection acquired by cancer patients during hospitalization, identifying their causes and to evaluate the antibiotic used for its treatment. Also, it was carried to evaluate the efficiency of disinfectants and detergents used for hospital environmental sanitation.

One hundred sixty-five clinical samples were collected from patients suffering from different infection bacteriological laboratory investigation. They included 118 (71.5%) urine samples, 14 (8.4%) surgical wound swabs, 9 (5.4%) Ear swabs, 10 (6.0%) Throat swabs and 14 (8.4%) samples from other sites of infection. Floor swabs and air samples were also taken from patient’s wards. The identification of the isolated organisms utilized cultural characteristics, Gram's reaction, and biochemical tests.

A total of one hundred organisms were isolated and identified. 9 (9%) Staphylococci aureus, 30 (30%) Coagulase-negative Staphylococci, 25 (25%) E. coli, 7 (7%) Klebsiella pneumoniae, 7 (7%) Proteus mirabilis, 6 (6%) Pseudomonas aeruginosa, 2 (2%) Enterobacter spp., 7 (7%) Candida albicans, 3 (3%) Enterococci spp., 3 (3%) Streptococcus pyogenes, 1 (1%) Salmonella paratyphi B.

Antimicrobial susceptibility testing was carried out by disk diffusion method on Mueller Hinton agar medium by Kirby-Bauer technique. Gentamicin and streptomycin were found to be the most effective antimicrobial agent. All E.coli strains were found to be 100% susceptibility to gentamicin and streptomycin. Most coagulase-negative Staphylococci strains showed 100% and 70-90 % susceptibility to gentamicin, streptomycin and ampicillin, coloxacinil and penicillin.

Settle plate technique was used to obtained samples before and after surgical theatre disinfection by formalin and the bioload was found to be 1600/m³ and 400/m³, respectively.
أخذت هذه الدراسة لتحديد نسبة الإصابة بالأمراض البكتيريا المعدية المكتسبة، و المتعلقة بين مرضى الأورام الخبيثة ومعرفة مسبباتها، وذلك بين المرضى الذين ادخلوا لتلقى العلاج بالمركز القومي للعلاج بالأشعة والطبي النووي. وكذلك أجريت لتقسيم فعالية مضادات الحيوية المستخدمة في علاجها، وكذلك أجريت لمعرفة فعالية المطهرات المستخدمة في تطهير بيئة المركز.

مائه خمسة وستون عينة طبية جمعت من المرضى لإجراء الفحوصات الفيزيائية البكتيرية. شملت 118 (71.5%) عينة من البول و 14 (8.5%) مسحات من جروح متقيلة و 10 (6.0%) مسحات من المنجردة و 9 (5.4%) مسحات من الأذن و 8.5% عينة لالتهابات أخرى. كذلك أخذت مسحات قطعية لعنابر المرضى وعينات من هواء غرفة العمليات. لعزل هذه الجرثومات وا لتعرف عليها أستخدمت طرق كثيرة نمو مستعمراتها في واسطتها الزراعية وخصائص تفاعلاتها الحيوية وصبغة غرام للاستدلال عليها.

تم عزل و التعرف على مائة جرثومة. وهي كالآتي 9 (69%) البكتيريا العانقودية موجبة القواقلوز و 30 (30%) البكتيريا العانقودية سالبة القواقلوز (2%) البكتيريا العانقودية المعوية و 25 (25%) الاشريكيه القولونية و 6 (6%) البكتيريا المتقلبات الزنجارية و 14 (14%) بكتيريات قولونية أخرى و 7 (7%) فطريات الكانديا.

تم استخدام طريقة مولر-هنتون القياسية بطريقة Kirby-Bauer بكتيري لعمل اختبارات الحساسية للمضادات الحيوية المستخدمة ضد هذه الجرثومات المعزولة. ووجد أن الجنتاميسين والاستريتومايسين أكثر هذه المضادات فعالية وكانت درجة حساسية الاشريكيه القولونية 100% للجنتاميسين والاستريتومايسين. البكتيريا العانقودية سالبة القواقلوز كانت حساسيتها كالتالي 100% للجنتاميسين والاستريتومايسين وبين 70-90% للباماسيلين واميسيلين وكوكساسلين.
تم عدد المستعمرات الجرثومية المتحصل عليها من هواء غرفة العمليات في واسطتها الزراعية بطريقة (Settle plate technique) وكانت نسبة التلوث تقدر بـ 1600 إلى 400 م³ قبل و بعد التعقيم على التوالي بمادة الفورمالين.
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List of Abbreviations

RICK: Radiation & Isotopes Centre Khartoum
CDC: The Centre for Disease Control
UTI: Urinary Tract Infection
WSI: Wound Site Infection