

Acknowledgement

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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 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 of 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 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 albican*. 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 was found to be 100% susceptibility to gentamicin and streptomycin. Most coagulase-negative *Staphylococci* strains showed 100% and 70-90 % susceptibility gentamicin, streptomycin and ampicillin, coloxacillin 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.

النتائج

أجريت هذه الدراسة لتحديد نسبة الإصابة بالأمراض البكتيرية المعدية المكتسبة و المنتشرة بين مرضى الأورام الخبيثة و معرفة مسبباتها و ذلك بين المرضى الذين ادخلوا لتلقي العلاج بالمركز القومي للعلاج بالأشعة و الطب النووي. وكذلك أجريت لتقييم فعالية المضادات الحيوية المستخدمة في علاجها. وكذلك أجريت لمعرفة فعالية المطهرات المستخدمة في تطهير بيئة المركز.

مائه خمسة وستون عينة طيبة جمعت من المرضى لإجراء الفحوصات المعملية البكتيرية . شملت 118 (71.5 %) عينة من البول و 14 (8.5 %) مسحات من جروح متقيحة و 10 (6.0 %) مسحات من الحنجرة و 9 (5.4 %) مسحات من الإذن و 14 (8.5 %) عينة لالتهابات أخرى. كذلك أخذت مسحات قطنية لعنابر المرضى و عينات من هواء غرفة العمليات. لعزل هذه الجرثومات و لتعرف عليها أستخدمت طرق كيفية نمو مستعمراتها في اوساطها الزراعية و خصائص تفاعلاتها الحيوية وصبغة غرام للاستدال عليها.

تم عزل و التعريف على مائة جرثومة . وهى كالاتى 9 (9%) البكتيريا العنقودية موجبة ال قوا قليزو 30 (30%) البكتيريا العنقودية سالبة الفوا قليزو 2 (2%) الياكتيريا النعودية المعوية و 25 (25%) الاشريكية القولونية , 6 (6%) باكتيريا المتقلبات الزنجارية و 14 (14%) بكتيريا قولونية أخرى و 7 (7%) فطريات الكانديدا.

تم أستخدم طريقة مولر-هنتون القياسية بطريقة Kirby-Bauer في وسط بكتيري لعمل اختبارات الحساسية للمضادات الحيوية المستخدمة ضد هذه الجرثومات المعزولة. و وجد أن الجنتاميسين و الاستربتومايسين أكثر هذه المضادات فعالية وكانت درجة حساسية الاشريكية القولونية 100% للجنتاميسين و الاستربتومايسين. البكتيريا العنقودية سالبة الفوا قليز كانت حساسيتها كالتى 100% للجنتاميسين و الاستربتومايسين و بين 70-90% للبناسيلين و اميسلين و كلوكساسلين.

تم عد المستعمرات الجرثومية المتحصل عليها من هواء غرفة العمليات في
أوساطها الزراعية بطريقة (Settle plate technique) و كانت 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