

الاية

بسم الله الرحمن الرحيم

(وَقُلْ اَعْمَلُوا فَسَيَرَى اللّٰهُ عَمَلَكُمْ وَرَسُولُهُ
وَالْمُؤْمِنُونَ وَسُتُرْدُّونَ اِلَىٰ عَالِمِ الْغَيْبِ وَالشَّهَادَةِ
فَيُنَبِّئُكُمْ بِمَا كُنْتُمْ تَعْمَلُونَ)

صدق الله العظيم

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DEDECATION

To the memory of my father.

To my mother,

husband,

brothers, sister

and my daughters .

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ABSTRACT

Extended spectrum β -lactamase (ESBLs) producing bacteria are of great public health concern. It is also recognized that detection of ESBLs constitutes a problem for microbiological laboratories since detecting methods used in this context are not sensitive enough to deal with all clinical isolates. The aim of this study was to compare two methods used for detection of ESBLs, the double disc synergy test (DDST) and phenotypic confirmatory test (PCT) on the recovered isolates.

Clinical specimens, including; urine, sputum, blood, wound swab, ear swab, high vaginal swab, and knee aspirate were collected from hospitalized patients in Khartoum State. The causative agents were characterized by phenotypic procedures and molecular typing. ESBLs were detected by DDST and PCT methods.

Out of 120 collected specimens, 54 bacterial species were recovered. These are *E. coli* (46.3 %), *K. pneumoniae* (24.1%), *K. oxytoca* (3.7%), *P. mirabilis* (16.7%), *P. vulgaris* (7.4%) and *E. cloacae* (1.9%). Of these 16 and 17 isolates were found to be ESBLs- producers when tested by DDST and PCT respectively. On the other hand, 18 out of 54 isolates were ESBLs-producers when examined by PCR.

The study concluded that there is no significant difference between DDST and PCT. Moreover, the two tests were rapid, easy to perform and cost-effective in screening ESBLs.

المستخلص

الكشف عن انزيمات البيتا لاكتام الممتدة الطيف في العزلات الاكلينية من المشاكل التي تواجه معامل الاحياء الدقيقة لان الطرق المستخدمة في الكشف غير حساسة بما يكفي للكشف عن هذه الانزيمات الغرض من هذه الدراسة هو المقارنة بين طريقتين من طرق الكشف عن انزيمات البيتا لاكتام الممتدة الطيف في العزلات الاكلينية الطريقتين المستخدمتين في هذه الدراسة هما اختبار ضعف التازر القرص و اختبار المظهرى التاكيدى

استخدمت في هذه الدراسة ١٢٠ عينة اكلينية تشمل البول والدم والقشع ومسحة الجروح ومسحة الاذن ومسحة المهبل ونسالة من الركبة تم جمعها من مرضى منومين في عدد من المستشفيات في ولاية الخرطوم وقد تم عزل ٥٤ سلالة بكتيرية من هذه العينات وكانت هذه السلالات لبكتريا لاسترشيا القولونية، ٤٦% والكليسيلا الرئوية ٢٤% والكليسيلا وكسيتوكا ٣,٧% و البروتيس ميربلاس ١٦,٧% والبروتيس فلجارس ٧,٤% و انتروباكتر كالوكا ١,٩%

عند اجراء اختبار ضعف التازر القرص واختبار المظهرى التاكيدى على هذه السلالات وجد ان اختبار ضعف التازر القرص تعرف ١٦ سلالة واختبار المظهرى التاكيدى تعرف على ١٧ سلالة وعند اجراء اختبار تفاعل البلمرة التسلسلى على هذه السلالات تعرف ١٨ سلالة منتجة لانزيمات البيتا لاكتام الممتدة الطيف

خلصت هذه الدراسة الى ان اختبار ضعف التازر القرص واختبار المظهرى التاكيدى من الاختبارات السريعة والسهلة و غير المكلفة حيث يمكن استخدامها في الكشف عن انزيمات البيتا لاكتام الممتدة الطيف في العزلات الاكلينية

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