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Acquired Error in using Antibiotic for Surgery Patients in Iraqi Hospitals
Fadya Y. Alhamdani
Controlled Release Floating Matrix Tablet of Captopril

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Abstract

The present study was done to prepare a gastroretentive floating tablet of captopril (CAP) which is an angiotensin converting enzyme inhibitor (ACE-inhibitor) used in the treatment of hypertension and heart failure. CAP is mainly absorbed from the proximal intestine and to a lesser extent from the stomach, also CAP stability decreases as the pH raised above 1.2 and this makes it a suitable candidate for floating dosage form. Effervescent floating tablets of CAP were prepared in order to prolong the gastric residence time and increase the bioavailability of the drug. The floating tablets of CAP were prepared by direct compression and wet granulation technique, using the polymer hydroxypropylmethylecellulose (HPMC) as the primary retarding polymer together with carboxymethylcellulose (CMC), ethyl cellulose (EC) and pectin as a secondary release modifying polymers in different ratios of (1:1, 3:1 and 9:1). Different formulation parameters were studied such as type of diluents, amount of effervescent agent, methods of preparation and their effects on buoyancy and the in vitro drug release profile as well as their physical characteristics. The wet granulation method shows a good flow and compressibility characteristics and a better dose uniformity in comparison with direct compression technique. Pectin together with HPMC in the ratio of 1:1 was found to meet the requirement for a good matrix formation and floating characteristics and the drug release was sufficiently sustained for 12 h with floating time >24 h and floating lag time of 2 min. Kinetic modeling of the release data for the selected formula showed that the mechanism of drug release pattern follows anomalous or non–fickian diffusion.

Key words: Captopril, floating, matrix tablet, pectin.

الخلاصة

المرض من هذه الدراسة تحضير صيغة دوانية طافية ذات قابلية بقاء في المعدة لدواء الكابتوبريل والميثبط لعمل الإنزيم المحول للانجيوتنسين ويستخدم الكابتوبريل لعلاج أمراض ارتفاع ضغط الدم وعجز القلب. الكابتوبريل يتنص بشكل رئيسي من الأعماة التهابية وقابلية أقل من المعدة. فلذ المبتلاة الدواء كما أرادت جلالة الملك، مما يجعل ميلج مثالي للتفاعلات الدوائية الطافية. الصبغ الدوانية الطافية لدواء الكابتوبريل المصنعة بالطريقة الفائزة قد خاضت ذلك لمرض زيادة فترة بقائها في المعدة من أجل زيادة التوارية الحيوية للدواء. التركيبة الدوانية الطافية الفائزة لدواء الكابتوبريل صنعت باستخدام بوليمر الهالوروسكسي ميلو سيلولوز (EC) والكابتوبريل ميلو سيلولوز (HPMC) كمجهز حجر أولي مع أو بدون معينات حجر ثانية مثل بوليمر الأليل سيلولوز (Pectin) والكابتوبريل ميلو سيلولوز (SCMC) ومنصب مختلفة (9:1, 1:1, 1:3). كما تم استخدام طريقة نشط عدد من العوامل المؤثرة على الصمود (Pectin). كما تم استخدام مساحة والأغذية الأخرى وقد وجد أن الصيغة التي تستخدم بوليمر الهالوروسكسي ميلو سيلولوز مع الكابتوبريل بنسبة (1:1) للكفاءات المطلوبة للداء بشكل جيد وخصوصاً طفو لجرعة الدواء. حيث كان معدل حجر الدواء من الصيغة قد استمر لأكثر من 12 ساعة وبتوقيت الطفو يفوق وفيت ومحصل طفو لأكثر من 24 ساعة. وقد تم مطابقة بيانات التحرر الدوائي للصيغة المتناقضة (11) مع مختلف النماذج الحركية لتحترر الدواء وقد لوحظ ان النية تحرر

Non-fickian
Acquired Error in using Antibiotic for Surgery Patients in Iraqi Hospitals*

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Abstract

The use of antibiotics (AB) in surgery focused in either treating established infection or to prevent suspected post-operative infection. Inappropriate use of antibiotic for treatment of patients with common infections is a major problem worldwide, with great implications with regards to cost of treatment and development of resistance to the antimicrobial agent. Moreover, antibiotics may often be dispensed without a clear clinical indication. This study was conducted to estimate the medication errors in using antibiotic for surgery patients which may effect their wound healing. A 260 patients with clean-contaminated and contaminated surgery were included from two teaching hospitals, 160 patient from Medical city hospital and 100 from Al-kadhimiya hospital, 86% were female and 32% were male, their age range was 40 +/- 15. The study shows that there are medication errors related to different causes: firstly, medical team error which include the nurse (70.9%) and the physician which include 1) delay in patient follow up after operation (5.9%), 2) changing the AB without doing culture and sensitivity test (48.8%), and incomplete prescription order (13.1%). second: ordering error which include: 1) the absent of original source of AB (44.5%), 2) Error in availability of the chosen AB (74.8%), and third: error related to the patient itself include 1) socioeconomic situation (14.5%), 2) educational state (54.3%), finally error related to increase cost in dispensing more than one AB needed (80.1%), although the healing was (63.6 %), delay in response (25%) and complicated wound infection (5%), significant results were arrange nurse error and poor drug availability. In conclusion: medication errors are still common problem in our hospitals, which are mostly related to medical team and the pharmacists should give more effort to avoid these errors.

Key words: Acquired error, Antibiotic, Surgery patients.

الخلاصة

استخدام المضادات الحيوية في الجراحة تركز أما في علاج المعاني البكتيرية المفتوحة أو لتمنعها المتوقعة بعد العملية.

استخدام المضادات الحيوية بشكل غير ملائم لعلاج المرضاع مع الالتهابات البكتيرية الشائعة من أجود المعاني المتزايدة عالمياً مع تطور اتجاهات المكافحة الميدانية الواردة على ذلك. المضادات الحيوية غالباً ما تكون مرضية لعلاج المصالح المفتوحة، و تشمل هذه الدراسة أجرت تقييم الأخطاء الطبية في استخدام المضادات الحيوية لعلاج الجراحات التي تؤثر على شفاء الجروح. 260 مريض من رده الجراحات مع جراحة نفثية، وردها نفثية، وردها متوسطة، وردها متوسطة، وردها من ثلاثين من المستشفيات التعليمية. تضمنت الدراسة 160 مريض من مستشفى مدينة الطب و 100 مريض من مستشفى الكاظمية. 86% كانوا نساء و 32% كانوا رجلاً. مدى اعتمادهم كان 40-45%. هذه الدراسة أظهرت أخطاء طبية تعود إلى أسباب مختلفة: أولاً، خطأ الفرق الطبي الذي تضمن المرضية (5.9%)، والطبيع و يضمن (1) تأخر في متابعة المريض بعد العملية (5.9%). (2) تغير المضادات الحيوية بدون اتخاذ الاعتبار (14.5%)، والرُكز (1) على معدلات الوفاة (13.1%). ثانياً: خطأ طبي و يضمن (1) غياب المصدر الأصلي للمضادات الحيوية المختارة (44.5%). و خطأ في تكوين المضادات الحيوية المختارة (74.8%). كلاهما يعود إلى المريض نفسه ويتضمن (1) حالة الاعتمادات الاقتصادية (14.5%), بحيال التعليمية (54.3%). وثالثاً: خطأ يعود إلى زيادة التكلفة في صرف أكثر من مضادات حيوية مطلوبة (80.1%), لكن الاستجابة ليست (6.6%). تأخر في الاستجابة (25%). وتلتقي جروح معد (5%). في الاستنتاج: الأخطاء الطبية تبقى من المشاكل الشائعة في مصطلحاتنا والتي غالباً ما تعود إلى أسباب الكادر الطبي و الصيدلة الذين يجب أن يبتلون جهود أكبر لتجنب هذه الأخطاء.
Preparation and Evaluation of Physical and, Rheological Properties of Clotrimazole Emulgel

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Abstract

Recently, emulgel has emerged as one of the most interesting topical preparations in the field of pharmaceutics. In this research clotrimazole was formulated as topically applied emulgel; different formulas were prepared. The prepared emulgels were evaluated for their physical appearance, rheological behaviour, and in vitro drug release. The influence of the type of gelling agent (carbopol 934 and methyl cellulose), the concentration of both the emulsifying agent (2% and 4% w/w of mixture of span 20 and tween 20) and the oil phase (5% and 7.5% w/w of liquid paraffin) and the type of oil phase (liquid paraffin and cetyl alcohol), on the drug release from the prepared emulgels was investigated. Commercially available topical canestin® cream was used for comparison. All the prepared emulgel showed acceptable physical properties concerning colour, homogeneity, consistency, and pH value. Rheological studies revealed that all emulgels formulations exhibited a shear – thinning behaviour with thixotropy, indicating structural break down of intermolecular interaction between polymeric chains. Clotrimazole emulgels exhibited higher drug release than canestin® cream. The results of in vitro release showed that methyl cellulose – based emulgel gave better release than carbopol 934 – based one. Also it was found that the emulsifying agent concentration had the most pronounced effect on the drug release from the emulgels, followed by the oil phase concentration, which has a retardation effect, and finally the type of the gelling agent. It was suggested that the clotrimazole emulgel formulation prepared with methyl cellulose, with low concentration of oil phase (5%w/w liquid paraffin) and high concentration of emulsifying agent (4%w/w), showed an optimum formula for highest drug release (74.4% after three hours), which followed higuchi diffusion model with a diffusion-controlled mechanism.

Key words: Emulgel, carbopol, methyl cellulose, clotrimazole

الخلاصة

برز المستحضرات الجيلاتينية كأحد المستحضرات الصيدلانية المهمة ذات الاستعمال الموضعي. تضمن هذا البحث تحضير مستحلب جيلاتيني لمادة الكلورامازول، حيث تم تحضير عدد من الصفح المختلفة. كما تم تقييم هذه المستحضرات الجيلاتينية المختلفة من حيث المظهر الفيزيائي، سلك الاستجابة، وتحرر الدواء خارج الجسم. كانت نتائج دراسة تأثير نوع العوامل الجيلاتينية (الكاربوليول 934 والميثيل سيليلوز) وتركيز كل من عوامل الاستحلاب (2% و 4% من مزيج سبان 20 و ثين 20) والطور الزيتي (5% و 7.5% من الزيت الزيتي) إضافة إلى نوع الطور الزيتي (البترافين الزيتي وكحل الزيت) على سرعة تحرر الدواء من المستحلب الجيلاتيني ومقارنة بينهما مع المستحضر التجاري (كريم كانستين). كافحة الصبغة المحضرة للمستحلب الجيلاتيني أظهرت خصائص فزيائية مفيدة متحدة باللون، التجسس، الرفع، والأداء الهيروجيني. كما وجد أن سرعة تحرر الدواء من كافحة الصبغ المستحلب الجيلاتيني أكثر من مستحضرات التجاري، كذلك تم الحصول على تحرر أفضل للدواء لصغ ميثيل سيليلوز مقارنة مع صبغ الكاربوليول 934. إن ما وجد أن تركيز عوامل الاستحلاب له تأثير ملحوظ على سرعة تحرر الدواء ببعض تركيز الطور الزيتي، حيث أنه يعمل على اعالة تحرر الدواء، وأخيراً نوع العامل الجيلاتيني. كذلك وجد أن نوع الطور الزيتي أيضاً يؤثر على سرعة تحرر الدواء. يقترح بأن الصبغة الدوائية للمستحلب الجيلاتيني المحضرة باستعمال الميثيل سيليلوز مع أقل تركيز من الطور الزيتي (5% من
البرافين السائل) و اعلى تركيز من عوامل الاستطالة (4%) هي الصيغة المختارة لإعطاء اعلى سرعة تحرر الدواء (74.4%) بعد ثلاث ساعات. كما أنها تتبع نظرية هيكوجي حيث ان سرعة انتشار الدواء هي الخطوة المحددة لتحرر الدواء.
Poly Acrylamide Gel Electrophoresis of Serum Protein, Application to Kala-azar Patients

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Abstract

Sera samples were collected from 60 children aged 4-60 months, all were clinically and serologically proven cases of visceral leishmaniasis, as well as from 10 healthy children, all were seronegative with no history of parasitic infection who serve as a control during the study. Serum total protein and albumin were measured and compared between the control and visceral leishmaniasis patients. Serum protein profiles have been investigated using the conventional sodium dodecyl sulphate – polyacrylamide gel electrophoresis (SDS-PAGE). Serum of control group showed the specific protein pattern with five protein bands, while serum protein profile in visceral leishmaniasis patients revealed three groups of electrophoretic banding patterns. 50% showed twelve bands, 36.66% of the patients showed nine bands and 13.33% showed ten bands. At least four of these bands were found to be common among the infected groups which may be of diagnostic value and required further investigations. The three different electrophoretic patterns groups may be correlated with the previous epidemiological observations in respect of different clinical presentation of the disease and different response the chemotherapeutic agents at many endemic areas around the world.

Key words: Protein band, protein patterns, serum protein, sodium dodecyl sulphate-poly acrylamide gel electrophoresis (SDS-PAGE), visceral leishmaniasis.

الخلاصة

جمعنا عينات الصلص من 60 طفل عراقي بعمر 4-60 شهرا، كلا الحالات ليبت سريريًا ومناعي الاصابة بداء الشمنيات الاحتشائية، ومن 10 أطفال صحة، كانت نتيجة سالبة ومناعي وبعد تاريخ عن طريق طفيلي آخر، استخدمت هذه المجموعة ك sist مراقبة أثناء الدراسة. تم قياس البروتينات الكلي والزلال في محل المصاصبين والأصهاي وتمت المقارنة بين المجموعتين. تم التحري عن البروتينات مصل الدم باستعمال تقنية الترحل الكهربائي التقليدي (هام لتحديد الكريتين) باستخدام SDS. أظهر مصل المجموعة القياسية نمط البروتينات الاعتيادي بخمسة حزم، بينما أظهر مصل مرضي الشمنيات الاحتشائية وجود ثلاث مجموعات مختلفة الأمامات وقد كانت كما يلي: 50 % أظهر اثنتا عشرة حزمة و36.66 % أظهر تسعة حزم و13.33 % أظهر عشرة حزمة. كما كنت هذه الدراسة على الأقل ووجد أربع عينة من هذه الحزم شائع بين المجموعات المصنعة. وقد تكون لهذه الحزام المهمة في تشخيص الفرد مما يستدعي إجراء دراسات امتحان وافع وقد تم تعديل الجسيمات الأخرى المطلوبة. ننصح بقياس هذه البروتينات المشترك ضمن المجموعات المختلفة. هذه المجمل الثلاثة من الامامات الروتينية قد ترتبط بالدراسات الوراثية السابقة وخاصة في المناطق التي يكون المرض فيها موطنا فيما يتعلق بالعوارض السريري المختلفة من المرض والاستجابه المختلفه للمعاج في هذه المناطق.
Calcium, Magnesium and Phosphorous Levels in Serum of Iraqi Women with Fibromyalgia

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Abstract

Fibromyalgia (FM) is a common, debilitating, and chronic pain syndrome. The women are more likely to have more tender points on examination than are their male counterparts. Iraqi study showed that FM occur in 1.5% among adolescents of Iraqi population. In compare to normal healthy women, present study was revealed that Iraqi women with FM have significant elevation of calcium (p = 0.003) with significant reduction of magnesium (p = 0.001), whereas the inorganic phosphorous was not differs (p = 0.31). In conclusion, magnesium and calcium would play a crucial role in etiopathogenesis of fibromyalgia.

Key words: calcium, magnesium, phosphorous, Fibromyalgia.

الخلاصة

الفيبروميلاجيا أو متلازمة أم الليف العضلي هي متلازمة الم مشتركة, منهاك و مزمن.

النساء أكثر عرضة للمزيد من نقاط الوهن اثناء الفحص السريري من نظرائهم من الرجال.

وأخبرت دراسة عراقية أن الفيبروميلاجيا تحدث في 1.5% من البالغين من العراقيين.

بالمقارنة مع نساء غير مصابات, أظهرت الدراسة الحالية أن النساء العراقيات المصابات

بالفيبروميلاجيا يظهرون ارتفاعا معنواً في الكالسيوم (p = 0.003) وانخفاضاً معنواً

بمستوى المغنيسيوم (p = 0.001) في المصل. بينما لم يظهر اختلافاً معنواً بمستوى الفسفور

غير العضوي (p = 0.31). يمكن الاستنتاج من نتائج الدراسة أنه من الممكن أن يكون

للكالسيوم والمغنيسيوم دوراً هاماً في امراضية الفيبروميلاجيا.
Association between Gallstones and Diabetics Type 2 Iraqi Patients
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Abstract
Gallstone disease is one of the most common complications among diabetic patients especially type 2 DM. Till now, there is no specific and certain factor that explain the incidence of gallstones among type 2 diabetic patients and many risk factors are taken collectively to estimate its intensity and severity compared to non diabetic counter parts. This clinical study was designed to evaluate and report the incidence and severity of gallstones among type 2 diabetics and non diabetics regarding certain factors. 20 diabetic females and 20 diabetic males were collected as patients’ group and have had gallstones while 20 females and 20 males who have had gallstones without diabetes mellitus type 2 were collected as controls’ group. The age, weight, and both of the size and number of gallstones of diabetic patients and controls were correlated to demonstrate the prevalence of gallstones among the patients’ and controls’ groups. The study showed that the mean ages of female patients is slightly higher (p<0.05) than the female controls. On the other hand there was a significant difference (p<0.05) between female and male control subjects. The body mass index (BMI) of male patients was significantly higher (p<0.05) than the male controls, while there was a significant difference (p<0.05) between female and male control subjects. The results of the study presented that the stone size of female patients was significantly higher (p<0.05) than the female and male controls, while the stone diameter of male patients was significantly higher (p<0.05) than the male and female controls. The stone number of female patients was significantly higher (p<0.05) than the female and male controls, while the stone number of male patients was significantly higher (p<0.05) than the male and female controls. These findings suggest that the incidence of gallstones was higher in type 2 diabetics both in males and females than the non diabetics and more in females than males who were non diabetics.

Key words: Diabetes mellitus, gallstones, gender, ultrasound

 segundos de vida, así como las variables de peso, la circunferencia de la cintura, la presión arterial, la glucemia y la concentración de colesterol. Se encontró que el porcentaje de pacientes diabéticos con antecedentes de tenencia de cálculos biliares fue significativamente mayor en comparación con los no diabéticos (p<0.05). Además, se observó que la edad promedio de los pacientes diabéticos fue significativamente mayor en comparación con los no diabéticos (p<0.05). Se encontró que el número de cálculos biliares fue significativamente mayor en los pacientes diabéticos en comparación con los no diabéticos (p<0.05). Los resultados de este estudio sugieren que los diabéticos tienen un mayor riesgo de tener cálculos biliares en comparación con los no diabéticos, y que este riesgo es mayor en pacientes diabéticos con antecedentes de tenencia de cálculos biliares.
Serum Trace Elements (Zinc, Copper and Magnesium) Status in Iraqi Patients with Acne Vulgaris: (Case- Controlled Study)

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Abstract
Recently on the dermatological fields, the serum levels and the roles of Zn, Cu and Mg have been studied especially in acne vulgaris, but the results were controversial. The aim of the present study is to investigate a relationship between the severity of acne and the serum levels of zinc (Zn), copper (Cu) and magnesium (Mg) and to demonstrate the status of serum levels of zinc, copper, and magnesium in Iraqi male patients with acne vulgaris and to compare it with those of healthy controls. This case controlled study was conducted in the Department of Dermatology and Venerology and in the Poisoning Consultation Center of Baghdad Teaching Hospital between May 2009 to January 2010. Forty-five male patients with acne vulgaris, their ages ranged from 18-30 (21.82±3.77) years and 45 healthy male subjects as controls, their ages ranged from 18-30 (22.18±3.85) years were included in this study. Patients were subdivided into three groups according to the severity of their acne; mild acne group (n=15), moderate (n=15) and severe acne group (n=15). Investigations included serum estimation of Zn, Cu and Mg in both patient and control groups. The data obtained from this study showed that the (mean±SD) values of serum levels of Zn was significantly decreased in severe acne group compared with controls, mild and moderate type of acne group (P<0.05). Serum Mg concentration was significantly lower in severe acne group compared with mild and moderate acne group (P<0.05). With regard to serum Cu, there were no significant differences among groups of patients with acne vulgaris. This study revealed a significant association between serum levels of either Zn or Mg with the severity of acne.

Key words: Acne vulgaris, zinc, copper, magnesium.
The Correlation between Rheumatoid Factor, Chloroquine Phosphate in Osteoarthritis

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Abstract

Osteoarthritis (OA) is a series of aggressive destructive inflammatory processes. Synovitis is common both at an early and a late phase. This disease may be uniquely singular in some site but phylogenetically related at some point in time to produce a common outcome of dysfunction, disability, socioeconomic destruction and sometimes socioeconomic failure. Articular cartilage, subchondral bone and synovial membrane are the site of major abnormalities in this disease process. Rheumatoid factor (RF) represents one of the routine laboratory tests that made for all patients have joint complaints. Chloroquine phosphate (CQP) is an agent belong to disease modifying osteoarthritic drugs (DMOADs). Chloroquine and their derivatives have been used for their anti-inflammatory effect in juvenile chronic arthritis, Sjogren’s syndrome, discoid and systemic lupus erythematosus.

The aim of this trial depends on using this drug in osteoarthritic patients for two months then estimate the level of RF check and RF(A,G,M). The result showed a significant correlation between CQP and RF check as well as RF type M in patients suffered from OA, so the level of these two parameters are decreased significantly in period of treatment thus leads to ameliorate the patients status and the joints pain will decreased.

Key words: Chloroquine, osteoarthritis, rheumatoid factors.
Insulin-Like Growth Factor-1 (IGF-1) Predicts the Diagnosis of Growth Hormone Deficiency in Short Prepubertal Children*

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Abstract

To study the serum IGF-1 level for prediction of growth hormone deficiency and its role in the diagnosis of short stature in children and adolescents. A study was conducted on forty four (44) short children with growth hormone deficiency. Children were classified into Group I thirty five (35) prepubertal children and Group II (9) patients who entered puberty. In addition to forty (40) apparently healthy children as control group, also were divided into group I control(29) prepubertal &group II (11) pubertal . IGF-1, GH, Thyroid function, serology for celiac disease, Hb level, bone age were done for all patients. IGF-1 and basal GH level (without provocative test) were done for control . There was a significant low difference between the serum IGF-1 level in the patients of group I in comparison to their serum level in control group I \{(90.98±23.69) (121.83±23.69) (p<0.05)\}. While there was no such difference between the serum IGF-1 level in the patients of group II in comparison to their serum level in control group II \{(184.59±196.52) (285.91±68.89) (p<0.05)\}. This study shows that IGF-1 level is low compared to control in short GH deficient children who did not enter puberty, while it is less significant in children and adolescents who entered puberty. So IGF-1 is a suitable parameter to predict GH deficiency in short prepubertal children in whom GH deficiency was found by GH provocative testing. But this test is less reliable in children who entered puberty.

Key Words: IGF-1, Growth Hormone Deficiency, Short Stature.
Postoperative Wound Infections and the Antimicrobial Susceptibility in Baghdad Hospitals

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Abstract

Nosocomial infections are one of the most important causes of mortality and morbidity in hospitals. These are major public health problems worldwide, but particularly in developing countries. The purpose of this research was to analyze the frequency of the microorganisms in the specimens taken from the surgical wounds, and to examine antimicrobial susceptibility for some isolates. Wound swabs were examined from June 2010 to January 2011. The isolates were identified by conventional methods, antimicrobial susceptibility testing was performed by Kirby-Bauer disc diffusion method as per NCCLS guidelines. A total of 102 wound swabs were examined; 22 (21.56%) swabs were sterile and 80 (78.43%) were positive for microorganisms. The results showed 27.2% positive for *Pseudomonas aeruginosa*, 25.0% positive for *Coagulase positive Staphylococci*, 20.0% positive for *Enterococcus spp.*, 17.5% positive for *Escherichia coli*, 15.0% positive for *Klebsiella pneumonia*, 13.7% for *Proteus mirabilis*, and 10.0% for *Acinetobacter baumannii*. Antibacterial susceptibility testing showed that the rate of isolates of Imipenem Resistance *Pseudomonas aeruginosa* (IRPA) were 3.7%, 11.2% positive for Vancomycin Resistance Enterococcus (VRE), 13.7% positive for both Methicillin Resistance *Staphylococcus aureus* (MRSA) and Vancomycin Resistance *Staphylococcus aureus* (VRSA), and 11.2% positive for Vancomycin Intermediate *Staphylococcus aureus* (VISA). We found that postoperative wound infections increase with pre and post operative hospitalization that's mean the infections can be decrease by shortening the hospitalization time. Our results appear to be maintained with strategies for preventing nosocomial infection, permanent education, strong application of protocols and urging the implementation of strict infection control policy.

Key words: nosocomial infection, surgical wound, antimicrobial susceptibility.

#الخلاصة

Efficacy of Combination of Meropenem with Gentamicin, and Amikacin against Resistant E. coli Isolated from Patients with UTIs: in vitro Study

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Abstract

Seventy five E. coli isolates were collected from urine of patients with urinary tract infections in AL-Kadhimia and AL-Yarmook teaching hospitals in Baghdad for a period between 22/11/2009 to 15/3/2010, from these samples twenty five isolates were selected according to their pattern of the highest resistance as these showing multi-drug resistances and tested to specify their minimum inhibitory concentration for (meropenem, gentamicin and amikacin), meropenem was found having the lowest MIC comparing with others. This study also includes in vitro effects of various combinations of three types of antimicrobials (meropenem, gentamicin and amikacin) against twenty five E. coli isolates. Among combinations the combination of meropenem with the other types of antimicrobials showed high synergistic effect when 1/4+1/4 MIC for each antimicrobial were used. While combinations of amikacin with gentamicin in some isolates showed additive effect when 1/2+1/2 MIC for each antimicrobial were used. The plasmid profile for the twenty five E. coli isolates were studied using Pure Yeild ™ plasmid Miniprep system- Cat.# A1220 – Promega- USA. In order to determined the presence of plasmid for antimicrobials resistance.

الخلاصة

تجعَّمت خمسة ومربع عزلة من الأمراض البكتيرية البولية من اثني عشر مرضى المصابين البولية الذين راجعوا مستشفى الكاهمية والرموق التعليمي في بغداد للفترة من 22/11/2009 إلى 15/3/2010. ومنهم تم اختيار خمسة وعشرون عزلة اعتداء على ما أثبتته من مقاومة عالية ومعتمدة للمضادات المركزة. ثم قدرت التركيز المثلى الديناميك (MIC) للمضادات (ميريبينيم، الجنتاميسين والأميكاسين). وقد أظهرت النتائج أن مضادات الميريبينيم هي الأكثر فاعلية وقد تلك ترتبط بهذين الفيروسات باقل التركيز مقاومة للمضادات وقد (in vitro) E. coli أظهرت النتائج أن اتحاد الميريبينيم مع بعض المضادات البكتيرية (الجنتاميسين والأميكاسين) يشير إلى تأثير نازوري على عند استخدام ربع التركيز المثلى الديناميك (MIC) لكل مضادات البكتيرية. بينما اتحاد الأميكاسين مع الجنتاميسين في بعض العزلات يشير إلى تأثير اضافي فقط عند استخدام نصف التركيز المثلى الديناميك (MIC) لكل مضادات البكتيرية. اشتملت الدراسة أيضا دراسة占领 البلازميدي خمسة وعشرون عزلة من بكتيريا E. coli باستخدام عدة عزلة البلازميدي بواسطة نظام Miniprep والنتائج بان...
Effects of Losartan versus Enalapril on Serum Uric Acid Levels in Hypertensive Patients with Metabolic Syndrome

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Abstract

To investigate the effects of losartan and enalapril on serum uric acid in hypertensive patients with metabolic syndrome, one hundred and twenty six newly diagnosed mild hypertensive patients, having markers of metabolic syndrome included in the study. The patients were divided into two groups. Group 1 (60 patients) was given losartan (50 mg/day) and group 2 (66 patients) enalapril (20 mg/day) for a duration of 2 months. A control group of seventy apparently healthy individuals were included. Metabolic syndrome was diagnosed according to diagnostic criteria of metabolic syndrome related to the American National Cholesterol Education Program-Adult Treatment Panel III. Serum uric acid levels were measured before and after drug administration. The results revealed a significant higher levels of uric acid were found in the hypertensive patients as compared with control group and a significant drop of uric acid was noted after treatment with losartan but not with enalapril. In conclusions: this study demonstrates significantly higher serum uric acid concentrations in hypertensive patients having markers of metabolic syndrome. Losartan but not enalapril therapy produced a significant fall in the serum uric acid level. Losartan can be useful therapeutic agent to control blood pressure and to reduce serum uric acid level in hypertensive patients having markers of metabolic syndrome and hyperuricaemia.

Key words: Hypertension, metabolic syndrome, uric acid, losartan, enalapril.
The Prevalence of Microorganisms in H1N1 Patients Compared to Seasonal Influenza in a Sample of Iraqi Patients

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Abstract

This study provides valuable information on secondary microbial infections in H1N1 patients compared to Seasonal Influenza in Iraqi Patients. Nasopharynx swabs were collected from (12) patients infected with Seasonal influenza (11 from Baghdad and 1 Patient from south of Iraq) and (22) samples from patients with 2009 H1N1 (20 from Baghdad and 2 from south of Iraq). The results show that the patients infected with 2009 H1N1 Virus were younger than healthy subjects and those infected with seasonal influenza. And the difference reached to the level of significance \( p < 0.01 \) compared with healthy subjects. Two cases infected with 2009 H1N1 virus (9.1%) were from south of Iraq and remaining 20 cases were from Baghdad. Polymicrobial isolates from nasopharynx swabs were observed in patients infected with 2009 H1N1 virus. Polybacterial infections (2-7 microorganisms) and fungal infection were reported in 21 out of 22 patients (95.5%) and 5 out of 22 (22.7%) respectively. The predominant isolated microorganisms were Streptococcus pyogenes, Staphylococcus aureus and Streptococcus pneumoniae were found in 95.2%, 95.2% and 90.5% respectively. The results also show that seven microorganisms were isolated from 10 (47.6%) patients infected with 2009 H1N1, no microorganism was isolated from patients infected with seasonal influenza or healthy persons.

Key words: Seasonal Influenza, 2009 H1N1, Nasopharynx swabs
Role of the Clinical Pharmacist in Reducing Preventable Adverse Drug Events#

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Abstract

According to so many previous studies, lack of sufficient information during prescribing steps may lead to medication errors. Thus, the presence of the clinical pharmacist during routine rounding process in the ward with intervention of patient care plan may reduce the probability of adverse drug events (ADEs). This study evaluate role of the clinical pharmacists, as a member of medical team with the physician, on ADEs and report their interventions in the internal medicine unit. This study was designed to compare between two groups of patients, those receiving care from a rounding team (physician, nurse, and clinical pharmacist) (study or intervention group with 51 patient); and those receiving care from a rounding team (physician and nurse, but without any pharmacist) (control group with 49 patient). The primary outcome measure was preventable ADEs and secondary one involves the time of staying in the hospital and onset of response to therapy. Patients were randomly selected, followed a single-blind design, and evaluated by a senior physicians and clinical pharmacists who document their medical interventions. Specialist physicians accepted (60) of (77) recommendations (i.e. do modifications in drug therapy depending on clinical pharmacist interventions). The most common intervention was recommending dosage or frequency of medication (32.4%), followed by addition of medication (19.5%). The rate of preventable ordering ADEs in the study unit was 77% lower than in the control unit (P<0.05). There was no significant difference (p>0.05) in the cost of drug therapy between patient groups. Patients with ADEs in the control group had an average of 1.5 day longer staying period at the hospital; which was not differ significantly (p>0.05) from the study group. In summary, presence of clinical pharmacist during tour as a full member of the patient care team in internal medicine ward was associated with a substantially lowered rate of ADEs which caused by prescribing errors. Types of errors indicate the need for activation of the clinical pharmacist’s interventions.

Key words: adverse drug events (ADEs), clinical pharmacist.
Synthesis of 5-Fluorouracil Derivatives as Possible Mutual Prodrugs with Meloxicam and Ibuprofen for Targeting Cancer Tissues

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Abstract

In the present study, five derivatives have been designed to be synthesized as possible mutual prodrugs for 5-Fluorouracil (5-FU) and non steroidal anti-inflammatory drugs (NSAIDs) to selectively deliver the drugs into the cancer cells. The synthesis of the target compounds were accomplished following multistep reaction procedures, the chemical reaction followed up and the purity of the products were checked by TLC. The structure of the final compounds and their intermediates were confirmed by their melting points, infrared spectroscopy and elemental microanalysis, the hydrolysis of compound III was studied using HPLC technique. According to the results mentioned above, compounds (I−V) can be good candidates as possible mutual prodrugs of 5-FU and NSAIDs that can selectively deliver the parent drugs into the cancer cells by the effect of enzymes that elevated in tumor tissues compared with normal tissues.

Key wards: Anticancer, 5-Fluorouracil, NSAIDs, prodrug.
Microbial Contamination of Eye Drops in out Patient in Iraq*
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Abstract

A contaminated ophthalmic solutions represent a potential cause of avoidable ocular infection. This study aimed to determine the magnitude and pattern of microbial contamination of eye drops in out patient at the department of ophthalmology, at Baghdad national hospital, Iraq. Fifty four vials from the out patient clinic were obtained for microbial examination after an average use of 2 weeks. The dropper tip and the residual eye drop were examined for contamination. The specimens were cultured, the number of colonies counted, the organisms identified. Eight (15%) out of 54 analyzed vials were contaminated, most bacteria identified belonged to the normal commensal flora of the eye. Isolated contaminants were Staphylococcus aureus, Micrococcus, Neisseria catarrhalis, Gram negative Rods, Candida albicans, and Staph epidermidus. The dropper tip was more often contaminated (n=5) than the residual solution (n=2) and only one vial showed acontamination of both the drop and the tip (n=1). Our data show a contamination rate of 15%, which is in the medium range of data published on the contamination of eye drops elsewhere (0.07% to 35.8%).

Key words: Microbial Contamination, Eye Drops

الخلاصة

يتم تلوث قطرات العيون خطرا كبيرا لأنه السبب الرئيسي في التهاب العين. ومخاطر ذلك قد يؤدي إلى العمي احيانا لذلك تهدف هذه الدراسة إلى تحديد مدى ومستوى التلوث المايكرولي لقطرات العيون للمرضى في عيادة الرضة الخارجية لقسم العيون في مستشفى بغداد العام في العراق. أربع وأربعون قطرة جمعت وتم قياس التلوث المايكرولي لها بعد معدل استعمال أسبوعين. رأس القطرة وبقية المحلول المتبقي خضع للفحص المايكرولي وبعد زرع وعد المستعمرين تم تحديد أنواع البكتيريا الملوثة. ثمانية قطرات اي ب معدل (15%) من مجموعة (54) قطرة تحوي بكتريا ملوثة معظمها تعود الى البكتيريا الطبيعية الموجودة في العين او الجلد ومنها Staphylococcus aureus, Micrococcus, Neisseria catarrhalis, Gram negative rods and Candida

رأس القطرة وجد أيضا أكثر تلوثا من بقية السائل المتبقي في القطرة وواحد فقط اظهر تلوث السائل و رأس القطرة.متوسط التلوث (15%) يعتبر حد وسط للتلوث المايكرولي لقطرات العيون من المعلومات المشتركة في أنحاء العالم وهو ما حدد بـ(0.07-35.8%).
Evaluation of the Relation between Asthma, Obesity and Leptin Level in Iraqi Asthmatic Patients and the Main Risk Factors that are Associated with Leptin Level#
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Abstract
This study tries to clear the correlation and association between asthma, obesity and leptin levels. Also it will work to indicate the main risk factors which play role in the elevation of leptin level within asthmatic patients. This is a case control study conducted on (38) asthmatic patients and (20) healthy control who were closely similar by age, gender and BMI. The main statistical tests used were student t test, linear regression test and correlation test. Significance was set at \( P < 0.05 \). Sampling method used for this study was convenience sampling method. The main results of this study show a significant association and positive correlation between age (old age \( \geq 40 \) years old), female gender, BMI (overweight and obese) and steroid utilization with leptin elevation in Iraqi asthmatic patients since \( P \) values \(< 0.05 \). This study concludes that there is a correlation between obesity, age, sex and utilization of steroid with leptin level and they were the main risk factors which play role in the mechanism of elevation of leptin in Iraqi asthmatic patients.

Key words: Leptin, Asthma, BMI.