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New insight into strategies used to develop long-acting G-CSF biologics for neutropenia therapy

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Over the last 20 years, granulocyte colony-stimulating factors (G-CSFs) have become the major therapeutic option for the treatment of patients with neutropenia. Most of the current G-CSFs require daily injections, which are inconvenient and expensive for patients. Increased understanding of G-CSFs' structure, expression, and mechanism of clearance has been very instrumental in the development of new generations of long-acting G-CSFs with improved efficacy. Several approaches to reducing G-CSF clearance via conjugation techniques have been investigated. PEGylation, glycosylation, polysialylation, or conjugation with immunoglobulins or albumins have successfully increased G-CSFs' half-lives. Pegfilgrastim (Neulasta) has been successfully approved and marketed for the treatment of patients with neutropenia. The rapidly expanding market for G-CSFs has increased demand for G-CSF biosimilars. Therefore, the importance of this review is to highlight the principle, elimination's route, halflife, clearance, safety, benefits, and limitations of different strategies and techniques used to increase the half-life of biotherapeutic G-CSFs. Understanding these strategies will allow for a new treatment with more competitive manufacturing and lower unit costs compared with that of Neulasta.

Biography

Dr Abdulrahman Theyab Alshehri BSc, MSc, PhD Consultant of clinical biochemistry & Deputy manager of laboratory & blood bank, Security Forces Hospital, Mecca, Saudi Arabia. Assistant professor at Al Faisal University, Riyadh, Saudi Arabia. 31 publications, reviewer, and editor at multiple journals, such as, springer nature, Frontiers & Elsevier.

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The Future of Pathology is Digital

Abdulrahman Theyab

Steve D. Barbee, CEO, CROPath USA

s the field of pathology has quickly changed in the past few years, digital pathology has emerged as permanent and effective frontier. As digital pathology continues to grow at a fast past, many organizations and experts are working to move the equipment, acceptance, regulation and innovation forward in a positive direction. With the complex integration of technology, software, hardware, medical needs and more, various experts from differing backgrounds are required to create these innovations and ideas. Often these experts and their efforts are being conducted independently of one another with little or no cross discipline discussion. As a way to bring together various ideas, thought leaders, innovators and others interested and involved in the field of digital pathology, we created a new audio podcast show, called Digital Pathology Today[™]. The independent interview style show, Digital Pathology Today[™] was launched in October 2020, to create a platform for the various players involved in the field of digital pathology to educate, inform, discuss and evaluate the next steps in digital pathology. Guests were selected based on their knowledge, experience, expertise in various areas involved with the development, implementation, use, study and history of artificial intelligence, machine learning and digital pathology. Each guest was briefed and provided advance discussion points to optimism their short time on the program. Audio-only interviews were recorded remotely, then edited and sound engineered to create maximum voice and audio quality. New episodes were released approximately the same time each week directly to the Digital Pathology Today[™] website and simultaneously to all major podcast services. Guests appeared free of charge and without payment. The show is funded through the support of sponsors. Digital Pathology Today[™] received 50,000+ downloads of the first seven months.

Biography

Steven D. Barbee has worked within the pathology industry for over 18 years. Mr. Barbee is the President of JAV Advisors Corp and CEO of CROPath, LLC. Additionally, Mr. Barbee is the President of Digital Pathology TodayTM & MagPie Diagnostics, LLC (CRO for digital pathology firms). Mr. Barbee served as President of DigiPath Corp since 2012, a digital slide scanner company. Prior to joining DigiPath, Mr. Barbee was Vice President of Sales, International, and Government Affairs at BioImagene, Inc., a digital pathology firm acquired by Roche Corporation in 2010. Before joining BioImagene, Mr. Barbee was Vice President of Sales and Marketing at Trestle Corporation, a digital pathology firm acquired by Clarient, Inc in 2006. Prior to the digital pathology sector, Mr. Barbee served in various general and sales management positions within telecommunication companies, including Zyan Communications, Level 3 Communications, ICG Telecom Group, and AT&T.

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Compliance to iron supplementation among pregnant women with iron deficiency anemia in riyadh, saudi arabia: determinants and barriers

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Background: iron deficiency anemia among mothers is a serious public health issue. Studies found a link between adverse events and iron supplementation compliance during pregnancy. Objectives: to assess the compliance to iron supplementation among pregnant women with iron deficiency anemia in Riyadh, Saudi Arabia, and its determinants and barriers. Methods: a cross-sectional study was done in Riyadh, Saudi Arabia on pregnant women with iron deficiency anemia who attended primary health care centers (PHCCs) in Riyadh, Saudi Arabia. An online questionnaire was used to collect data about women's demographics, obstetric and gynecological history, prescribed iron supplements, women's awareness regarding iron deficiency anemia, compliance with iron/folate supplementation, and reasons for non-compliance. Results: 74.8% of females sometimes forget to take iron supplements, 54.1% reduced or stopped taking iron supplements without telling their doctor because they felt worse when taking them, and 63.5% sometimes forget to bring or take iron supplements when they leave home. The prevalence of low, medium and high compliance with iron supplement intake was 74.2%, 15.1%, and 10.7%, respectively, among the participants. Side effects (43.4%) and forgetting (32.1%) were the most common reasons for noncompliance. High compliance was significantly higher among participants over the age of 30, with a university education or higher, in the trimester, who had \geq 5 antenatal visits, and who preferred iron supplements in tablet form. Conclusion: The low observed compliance among studied females emphasizes the importance of increasing communication for behavior change and counseling before or during antenatal care to improve.

Biography

Bandar Alshehry has his expertise in improving the health and wellbeing. his open and contextual evaluation model based on responsive constructivists creates new pathways for improving healthcare. He has built this model after years of experience in research, evaluation, training, and administration both in hospital and education institutions. The foundation is based on fourth generation evaluation (Guba& Lincoln, 1989) which is a methodology that utilizes the previous generations of evaluation: measurement, description and judgment. It allows for value-pluralism. This approach is responsive to all stakeholders and has a different way of focusing.

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Hepatitis b: correlation of precore/core gene mutations with serological profiles of patients co-infected with human immunodeficiency virus-1 in kwazulu-natal, south africa

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epatitis B virus (HBV) is a major global public health concern. Hepatitis B virus was discovered in 1965, and is a small L DNA virus that infects hepatocytes of humans. Despite the HBV vaccine being included in the EPI schedule and availability of effective treatment, over 1.9 million people are chronically infected with HBV in South Africa. Investigation at a molecular or sequence level can help determine and characterise the various combinations of mutations underlying serological abnormalities. This study aimed to identify mutational changes within the Precore/Core region of HBV, and investigate their impact on the serological profiles of HBV/HIV co-infected patients in the province of KwaZulu-Natal, South Africa. This study made the assumption that Core gene mutations have an effect on serological profiles of patients, and therefore treatment for these patients may be affected. This was a cross-sectional analysis of prospectively collected data conducted in a tertiary/ quaternary hospital (Inkosi Albert Luthuli Central Hospital, Durban), KwaZulu-Natal province, South Africa. One hundred and fifty South Africa participants were enrolled, and were infected with HIV and co-infected with HBV. Plasma samples were obtained from all participants for serological and molecular testing, respectively. PreCore/Core gene PCR products were sequenced using Next Generation Sequencing platform. Serological analysis of the patients reflects that there is a correlation between the serological profiles of the patients and the mutations observed in the preCore/Core region. Interpretation of the serological markers reveals that some patients have a typical clinical picture of HBV infection, while others show a deviation to the normal HBV infection clinical picture. Hepatitis B virus infections can persist for years or even decades. Thus, mutations accumulate and become clinically significant. Mutations of HBV have frequently been described, and certain mutations may have serious implications at different levels ...

Biography

Peter Matsapola is an accomplished Scientist with a diverse background in virology, specifically focusing on hepatitis B virus (HBV) research, diagnostic techniques, and enteric and environmental research. With an unwavering passion for understanding infectious diseases and their impact on public health, Peter Matsapola has made significant contributions to the field through his extensive research and expertise.

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New methods and equations of separate fever from disease and its symptoms, signs, signals and actions

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A fever patient has illness and fever at the same time. From this there is no system of distinguishing between disease and fever. Most people do not even think of a system of distinguishing between fever and disease or their signs, symptoms, signals and actions, or the formulas by which they are found, because they blindly believe that fever is a symptom of disease. Many patients who do not know what the fever is for go to the hospital to cure the fever. Medicines and treatments are given to reduce the temperature of the fever. The cause of the fever and the cause of the disease are not one but two. Those who do not know this mistake that if the temperature of the fever decreases, the disease is gone. Even if the result or the fever is gone, the disease remains in the patient's body. Most of the time the disease is not diagnosed, detected or known when the fever is present. Here is the relevance of distinguishing between fever and disease, fever, their signs and symptoms, signals, actions, and their formulas. We can separate disease, fever, and its symptoms, signals, and actions.

Biography

K. M. Yacob, he has compiled a list of formulas that can distinguish between the symptoms, signs, signals, and actions of fever and illness and a list of 17 formulas that distinguish between fever and disease. It has been published in the book "The purpose of the temperature of fever".

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