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Edward R. Bollard

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Kim M. O'Connor and Douglas S. Paauw

Pharmacologic Therapy of Type 2 Diabetes 647

Jennifer J. Wright and Tracy S. Tylee

Type 2 diabetes (T2DM) is a common condition. Treatment of diabetes and related complications can be complex. In addition to lifestyle changes, medications play an important role in controlling patients' blood glucose levels and preventing complications. From an individual and societal standpoint, it is also an expensive disease. Medical spending attributed to diabetes per individual is significant. With appropriate therapy, patients can lead full, healthy lives with the disease, so making informed decisions regarding pharmacotherapy for T2DM is clearly of great importance.

Update in Hypertension Therapy 665

Leonard A. Mankin

Hypertension is the leading cause of early mortality in the world, and reduction of blood pressure can help to reduce that burden. There is an enormous and ever-expanding body of literature on hypertension, with a 2016 Medline search for hypertension retrieving more than 113,000 publications. Recent guidelines from major societies have been published, and often present conflicting recommendations based on the same data. Using a question-and-answer format, this article reviews some of the recent developments and opinions on management of blood pressure and provides practical suggestions for management in the clinical arena.

Pharmacologic Therapies in Anticoagulation 695

Joana Lima Ferreira and Joyce E. Wipf

Anticoagulants are beneficial for prevention and treatment of venous thromboembolism and stroke prevention in atrial fibrillation. The development of target-specific oral anticoagulants is changing the landscape of anticoagulation therapy and increasing interest on this subject. Understanding the pharmacology of different anticoagulants is the first step to adequately treat patients with best available therapy while avoiding serious bleeding complications. This article reviews the pharmacology of the main anticoagulant classes (vitamin K antagonists, direct oral anticoagulants, and heparins) and their clinical indications based on evidence-based data currently available in the literature.

- Pharmacologic Therapies for Rheumatologic and Autoimmune Conditions** 719
Alison M. Bays and Gregory Gardner
- Disease-modifying antirheumatic drugs (DMARDs) are commonly prescribed by rheumatologists to reduce disease activity and induce remission in autoimmune conditions such as systemic lupus erythematosus and rheumatoid arthritis. Steroids are sometimes used in combination with DMARD therapy and should be used at the lowest effective dose for the least amount of time. There are many biologic agents available for use for inflammatory arthritis and other autoimmune conditions. Care should be taken when prescribing and managing DMARDs, steroids, and biologic agents medications with a careful eye towards screening for infectious disease, vaccination, bone health, and lab monitoring.
- Movement Disorders: A Brief Guide in Medication Management** 733
Anthony Julius and Katelan Longfellow
- Movement disorders can be challenging to manage and often use a specific set of medications. Because it is a complex and broad field within neurology, many providers are unfamiliar with the classes of medications. This article details medications used for specific conditions, explains why these medications are helpful, and shares pearls and pitfalls related to each agent, focusing on parameters such as dose titration, side effect profiles, and specific drug–drug interactions and challenges. We focus on the most commonly encountered movement disorders, including essential tremor, Parkinson’s disease, rapid eye movement sleep behavior disorder, and restless leg syndrome.
- Pharmacologic Therapies in Women’s Health: Contraception and Menopause Treatment** 763
Caitlin Allen, Ginger Evans, and Eliza L. Sutton
- Female hormones play a significant role in the etiology and treatment of many women’s health conditions. This article focuses on the common uses of hormonal therapy. When prescribing estrogen-containing regimens throughout the span of a woman’s life, the risks are similar (ie, cardiovascular risk and venous thromboembolism), but the degree of risk varies significantly depending on a woman’s particular set of risk factors and the details of the hormone regimen. In addition to estrogens and progestogens, this article also touches on the use of selective steroid receptor modulators in emergency contraception and in treatment of menopause symptoms.
- Pharmacologic Therapy in Men’s Health: Hypogonadism, Erectile Dysfunction, and Benign Prostatic Hyperplasia** 791
Kathryn E. Berkseth, Arthi Thirumalai, and John K. Amory
- This article reviews current pharmacologic treatment options for 3 common men’s health concerns: hypogonadism, erectile dysfunction (ED), and benign prostatic hyperplasia (BPH). Specific topics addressed include: management of male hypogonadism using testosterone replacement therapy, use of oral phosphodiesterase inhibitors as first-line therapy for men with ED and the utility of intraurethral and intrapenile alprostadil injections for patients who do not respond to oral medications, and the role of

alpha1-adrenergic antagonists, 5-alpha-reductase inhibitors, anticholinergic agents, and herbal therapies in the management of BPH.

Evaluation and Treatment of Osteoporosis

807

Kim M. O'Connor

As the population ages, the rates of osteoporotic fractures will increase, with postmenopausal women incurring most of these fractures. Diagnosis and treatment of osteoporosis are extremely important. Dual-energy x-ray absorptiometry scan screening is recommended in all women more than 65 years of age or in women aged 50 to 64 years with certain risk factors. Treatment should be considered if osteoporosis is present, there is a history of fragility fracture, or in the setting of osteopenia plus high risk for fracture.

Pharmacologic Therapies in Gastrointestinal Diseases

827

Rena K. Fox and Thiruvengadam Muniraj

Several key areas in gastroenterology pharmacotherapy are rapidly evolving, including the treatment of hepatitis C virus (HCV), irritable bowel syndrome, gastroesophageal reflux disease (GERD), and peptic ulcer disease. HCV treatment has radically changed in the past 2 years and now most patients are treatment candidates and have a high likelihood of permanent cure. Pharmacotherapy is now first-line treatment for patients with moderate to severe symptoms of irritable bowel syndrome. Proton pump inhibitors (PPIs) are the mainstay of therapy in gastric and duodenal ulcers and GERD, although long-term use carries the risk of several side effects that should be considered.

Pharmacologic Therapies in Pulmonology and Allergy

851

Andrew G. Ayars and Matthew C. Altman

Conditions such as chronic rhinitis, urticaria, angioedema, and asthma are frequently seen in clinics and hospitals, and there are a core group of medications that are often used to treat these conditions. Knowing the indications, optimal dosing, and side-effect profile of these medications can improve outcomes. Chronic rhinitis due to various causes is one of the most common reasons for primary care physician visits. Knowing the indications for use, forms of administration, and side-effect profiles of these medications can help improve patient outcomes in these common conditions. This article focuses on the medications used to treat these conditions.

Pharmacologic Therapies in Musculoskeletal Conditions

869

Melinda S. Loveless and Adrielle L. Fry

Musculoskeletal conditions are common, and there are many options for pharmacologic therapy. Unfortunately, there is not strong evidence for the use of many of these medications. Acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs) are generally first-line medications for most musculoskeletal pain, but there is more evidence these medications are not as safe as once thought. Other analgesic and antispasmodic medications can be effective for acute pain but generally are not as effective for chronic pain. Antidepressants and anticonvulsants can be more effective

for chronic or neuropathic pain. Topical formulations of NSAIDs can be effective for pain with fewer side effects.

Pharmacotherapy for Substance Use Disorders

891

Jared Wilson Klein

This article reviews the current pharmacotherapy options available for the treatment of patients with substance use disorders. In the United States there are medications available to treat tobacco use disorders (nicotine replacement, bupropion, and varenicline), alcohol use disorders (naltrexone and acamprosate), and opioid use disorders (methadone and buprenorphine). These medications are likely underused and physicians should more readily prescribe for eligible patients.

New Approaches to Antibiotic Use and Review of Recently Approved Antimicrobial Agents

911

Andrew W. Hahn, Rupali Jain, and David H. Spach

Antimicrobial drug-resistance continues to force adaptation in our clinical practice. We explore new evidence regarding adjunctive antibiotic therapy for skin and soft tissue abscesses as well as duration of therapy for intra-abdominal abscesses. As new evidence refines optimal practice, it is essential to support clinicians in adopting practice patterns concordant with evidence-based guidelines. We review a simple approach that can 'nudge' clinicians towards concordant practices. Finally, the use of novel antimicrobials will play an increasingly important role in contemporary therapy. We review five new antimicrobials recently FDA-approved for use in drug-resistant infections: dalbavancin, oritavancin, ceftaroline, ceftolozane-tazobactam, and ceftazidime-avibactam.

Antiretroviral Therapy for Prevention of Human Immunodeficiency Virus Infection

927

Aley G. Kalapila and Jeanne Marrazzo

Human immunodeficiency virus (HIV) infection is considered a chronic medical condition. Several new drugs are available, including fixed-dose combination tablets, that have greatly simplified combination antiretroviral therapy (ART) regimens to treat HIV, while increasing the life-expectancy of infected individuals. In the last decade, multiple well-regarded studies have established the benefits of using ART in high-risk, HIV-negative persons to prevent HIV acquisition. The primary care provider must not only understand commonly encountered issues pertaining to ART, such as toxicities and drug interactions, but also needs to be aware of using ART for HIV prevention.

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