NEW PRODUCT NEWSLETTER

HERE'S WHAT HAS HAPPENED IN THE LAST QUADRUPLE !

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Ideas for healthcare

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Abstract

Effective interventions to address maternal and child malnutrition: an update of the evidence

Emily C Keats, Jai K Das, Rehana A Salam, Zohra S Lassi, Aamer Imdad, Robert E Black, Zulfiqar A Bhutta.

Research findings on MMS during pregnancy

1. JiVitA-3 Randomized Trial1 in Bangladesh, MMS compared with IFA supplementation resulted in significant reductions in preterm births and low birth weight.

2. In July 2021, WHO included MMS2 tablets on the core list of the Essential Medicine List (EML) for use as an antenatal supplement.

3. The Lancet published 3 strong evidence for MMS implementation as effective interventions to address maternal and child nutrition.

4. icddr'b conducted many surveys and concluded that Multiple Micronutrient Supplementation during pregnancy is associated with reduced LBW, still birth, SGA and pre-term birth, also includes MMS being superior so far.

Ref:

1. Effect of Maternal Multiple Micronutrient vs Iron–Folic Acid Supplementation on Infant Mortality and Adverse Birth Outcomes in Rural Bangladesh, The JiVitA-3 Randomized Trial.

2. Report of 23 WHO expert committee on the selection and use of Essential medicines (page 12 and 19)

3. Lancet Child & Adolescent Health 2021.

Abstract

Double-blind, placebo controlled trial of carisoprodol 250 mg tablets in the treatment of acute lower-back spasm

Lee Ralph, Michele Look , William Wheeler and Harry Sacks San Diego, Sports Medicine and Family Health Center, San Diego, CA, USA b Med Pointe Pharmaceuticals, Somerset, NJ, USA.

The objective of this placebo-controlled trial was to determine the efficacy and safety of carisoprodol a centrally acting skeletal muscle relaxant used to treat acute, painful musculoskeletal conditions, at a dosage of 250 mg three times daily and at bed time in patients with acute, painful muscle spasm of the lower back. This was a 7 day, multicenter, randomized, double-blind, placebo-controlled, parallel-group study. Qualified patients were randomly assigned to treatment with carisoprodol 250 mg tablets (n = 277) or matching placebo tablets (n = 285). The primary efficacy endpoints were patient-rated global impression of change and patient-rated relief from starting backache scored on a 5-point rating scale. The primary analysis was on study Day 3.Carisoprodol was significantly more effective than placebo for patient-rated global impression of change (2.24 vs. 1.70) and patient-rated relief from starting backache (1.83 vs. 1.12). Patients experienced clinical improvement with or without sedation. Onset of moderate or marked improvement was 3 days with carisoprodol compared to 6 days with placebo. No patient discontinued treatment with carisoprodol because of drowsiness, and there were no serious adverse events or clinically significant effects on laboratory values or vital signs. In this study, patients with acute muscle spasm of the lower back had significantly greater and more rapid relief from starting backache, and had improved functional status, as measured by the RMDQ, during treatment with carisoprodol 250 mg tablets compared to placebo. Patients experienced clinical improvement with or without sedation.

Abstract

Impact of Butamirate citrate in control of cough in respiratory tract inflammation.

Tadeusz Płusa
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Cough is the reflex defense response of the respiratory tract to the present secretions in the throat, trachea and bronchi, and ongoing inflammation in the mucous membranes of the upper and lower respiratory tract. From a practical point of view, cough is dry (unproductive) and productive cough with expulsion of significant amounts of secretion. Drugs used to treat cough differ in both mechanism of action and pharmacokinetic activity. Butamirate citrate belongs to a new class of cough suppressants acting centrally through the receptors in the brainstem. In addition, it has a very beneficial effect, because it reduces the resistance in the airways by inhibiting bronchospasm and anti-inflammatory effect. An important asset of this group of drugs is peripheral activity and effects on bronchodilator muscles, such as in the case of butamirate. It is rapidly absorbed after oral administration and its therapeutic plasma concentration is determined after 5-10 minutes of administration, irrespective of the dose. Possible side effects are rarely seen in 0.5-1% of patients, mainly in the form of skin rash, nausea, diarrhea, dizziness, which usually resolves during treatment. Inclusion of this feature is particularly beneficial in chronic inflammatory bronchial diseases.

Abstract

Bisoprolol in the treatment of chronic heart failure

Dr. Pascal de Groote
Service de Cardiologie Hôpital Cochin, France.

Bisoprolol fumarate is a highly selective beta-1 receptor blocker. Bisoprolol has been extensively studied in three large mortality trials in stable chronic heart failure (CHF) patients. The Cardiac Insufficiency Bisoprolol Study (CIBIS) trial enrolled 641 patients and demonstrated the good tolerability of bisoprolol in a large CHF population, without evidence for any harmful effect. The CIBIS-II study was the fi rst large randomized, double-blind, placebo-controlled study demonstrating in 2647 patients a dramatic reduction in mortality with a beta-blocking agent in CHF patients. CIBIS-III demonstrated in 1010 patients the equivalence of two different therapeutic strategies in de novo CHF patients. There was no difference in morbidity and mortality between sub-groups of patients receiving first bisoprolol or enalapril. These three trials also demonstrated the good tolerability of bisoprolol fumarate. Other studies were either limited in number of patients or not randomized. However, these studies confi rmed the good tolerability of bisoprolol in CHF patients, even in elderly population. Bisoprolol fumarate is a selective beta-1 receptor blocker that signifi cantly reduced morbidity and mortality in stable CHF patients. Bisoprolol is well tolerated with few signifi cant side effects in different large trials.

Clinical trail report from World 8th Cardiologic Hospital

Bisoprolol 7.50 mg is well tolerated

Highly selective beta-1 adrenergic blocker

Ref: Europe PMC, Vascular health and risk management. August 2007.

Abstract

Mirogabalin vs pregabalin for chemotherapy-induced peripheral neuropathy in pancreatic cancer patients

Mitsuru Sugimoto
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The prognosis of pancreatic cancer (PC) has been improved by new chemotherapy regimens (combination of 5-fuorouracil, oxaliplatin, irinotecan, and leucovorin (FOLFIRINOX) or gemcitabine plus nab-paclitaxel (GnP)). Unfortunately, chemotherapy-induced peripheral neuropathy (CIPN) is a common adverse event of these two regimens. In both the mirogabalin group and the pregabalin group, the grade of patients with CIPN at 2, 4, and 6 weeks after the initiation of treatment showed significant improvement compared to the pretreatment grade. Notably, the rate of CIPN improvement was higher in the mirogabalin group than in the pregabalin group (2 weeks: 84.6% (11/13) vs 33.3% (7/21), P value = 0.005; 4 weeks, 6 weeks: 92.3% (12/13) vs 33.3% (7/21), P value = 0.001 .

Retrospective analysis showed that mirogabalin is tolerable and can potentially be a treatment option for CIPN induced by nab-paclitaxel in patients with PC

Mirogabalin is more effective than pregabalin for the treatment of pancreatic cancer patients.

Mirogabalin has now been approved in several countries to treat PNP and current Japanese guidelines recommend mirogabalin as a first-line treatment for PNP.

Ref: BMC Cancer, 2021.

Abstract

Meta-Analysis Comparing Torsemide Versus Furosemide in Patients With Heart Failure

Dr. Bishoy Abraham
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Although torsemide's oral bioavailability and half-life theoretically render it a more efficient diuretic than furosemide, the clinical outcomes of torsemide compared with furosemide remain unclear. We performed a systematic review and meta-analysis, including all published studies that compared torsemide and furosemide use in heart failure patients from January 1996 through August 2019. Nineteen studies (9 randomized control trials [RCTs] and 10 observational studies) with a total of 19,280 patients were included. During a mean follow-up duration of 15 months, torsemide was associated with a numerically **lower risk of hospitalization** due to heart failure (10.6% vs 18.4%; odds ratio [OR] 0.72, 95% confidence interval [CI] [0.51, 1.03], p=0.07, I2=18%; number needed to treat [NNT]=23) compared with furosemide. Torsemide was associated with statistically significant more improvement in functional status from **New York Heart Association (NYHA)** class III/IV to I/II (72.5% vs 58%; OR 2.32, 95% CI (1.32, 4.1), p=0.004, I2=27%; NNT=5) and lower risk of cardiac mortality (1.5% vs 4.4%; OR 0.37, 95% CI (0.20, 0.66), p <0.001, I2=0%, NNT=40) compared with furosemide. However, there was no difference in all-cause mortality or medication side effects between the 2 groups. In conclusion, compared with furosemide, torsemide use was associated with significant more improvement in functional status and lower cardiac mortality; and numerically fewer hospitalizations in patients with heart failure.

Abstract

Combination of Empagliflozin and Metformin Therapy: A Consideration of its Place in Type 2 Diabetes Therapy

Professor Jennifer D Goldman
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Type 2 diabetes mellitus (T2DM) is characterized by multiple metabolic abnormalities and current approaches to treatment involve a stepwise approach, frequently involving the use of combination therapy. The addition of the sodium-glucose cotransporter-2 (SGLT2) inhibitor, empagliflozin, to metformin therapy has been shown to be effective and well tolerated in patients with T2DM and is 1 of the several recommended treatment options. The publication of the EMPA-REG OUTCOME study, which showed that empagliflozin is associated with cardiovascular (CV) and renal benefits, has resulted in changes in treatment guidelines for T2DM. Because many patients with T2DM will require treatment with more than 1 glucose-lowering agent, consideration of the role of empagliflozin in combination therapy is relevant. The clinical data reviewed show that the combination of empagliflozin/metformin offers the potential to improve glycemic control in T2DM and reduces body weight and blood pressure, vs each agent individually, with a manageable risk profile. This combination could be suitable for patients with T2DM who are inadequately controlled by metformin, in particular, for patients who would benefit from modest reductions in blood pressure and body weight or who have risk factors for CV disease or declining renal function. Empagliflozin/metformin is also available as a single-pill combination, which has the potential to provide a simplified treatment regimen and could lead to improved clinical outcomes compared with coadministration of individual tablets.

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Abstract

The acid pocket: a target for treatment in reflux disease by Rabeprazole

Peter Kahrilas, MD
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The gastroesophageal junction escaped the buffering effects of meals that's why remained highly acidic compared with body of the stomach is defined as Acid Pocket. This Acid pocket is involved in the occurrence of postprandial heartburn in GERD Patients and in the treatment of Postprandial Heartburn. Rabeprazole is the only effective Proton Pump Inhibitor because Rabeprazole can decrease the number of acid pockets. Esophageal pH of reflux observed during pH monitoring in the postprandial period is often more acidic than the concomitant intragastric pH. This paradox prompted the discovery of the "acid pocket" an area of unbuffered gastric acid that accumulates in the proximal stomach after meals and serves as the reservoir for acid reflux in healthy individuals and gastroesophageal reflux disease (GERD) patients. However, there are differentiating features between these populations in the size and position of the acid pocket, with GERD patients predisposed to upward migration of the proximal margin onto the esophageal mucosa, particularly when supine. This upward migration of acid, sometimes referred to as an "acid film" likely contributes to mucosal pathology in the region of the squamocolumnar junction. Furthermore, movement of the acid pocket itself to a supradiaphragmatic location with hiatus hernia increases the propensity for acid reflux by all conventional mechanisms. Consequently, the acid pocket is an attractive target for GERD therapy. It may be targeted in a global way with proton pump inhibitors that attenuate acid pocket development, or with alginate / antacid combinations that colocalize with the acid pocket and displace it distally, thereby demonstrating the potential for selective targeting of the acid pocket in GERD.

Ref: The American Journal of Gastroenterology, July-2013.

Abstract

Eggshell calcium: A cheap alternative to expensive supplements

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Since prehistoric times, eggs have been used as a food source by human beings. Eggs are not only a good source of nutrition, but their shells also have many nutritional and non-nutritional components. A huge amount of eggshell waste is generated globally, and these eggshells are rich source of minerals especially calcium. Calcium carbonate comprises more than 90% by weight of an eggshell. Current review highlights how to minimise eggshell waste by extracting and utilizing its calcium for food fortification and manufacturing calcium rich food sources. It also explains how calcium from eggshell can be extracted through techniques such as electric discharge assisted mechanical milling, high intensity pulsed electric field, pulsed electric field and high energy milling.This review further focuses on the utilization of eggshell in food industries which ultimately would reduce the global burden of eggshell waste to some extent.

Ref: Trends in Food Science & Technology, 2019.

Abstract

Blood pressure lowering efficacy of nonselective beta blockers for primary hypertension

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Beta-blockers are one of the classes of drugs frequently used to treat hypertension. Quantifying the blood pressure (BP) lowering effects of nonselective beta-blockers provides important information that aids clinical decision making. In people with mild-to-moderate hypertension, nonselective beta-blockers lowered peak BP by a mean of -10/-7 mmHg (systolic/ diastolic) and reduced heart rate by 12 beats per minute. Propranolol and penbutolol were the two drugs that contributed to most of the data for nonselective beta-blockers. This estimate is likely exaggerated due to the presence of extreme outliers and other sources of bias. If we removed the extreme outliers from the analysis, the estimate for non-selective beta-blockers was lower (-8/-5 mmHg (systolic/diastolic). Nonselective beta-blockers did not show a convincing graded dose-response in the recommended dose range for systolic BP and diastolic BP, while higher dose nonselective beta-blockers provided greater reduction of heart rate. Using higher dose nonselective beta-blockers might cause more side effects, such as bradycardia, without producing an additional BP-lowering effect. The effect of nonselective beta-blockers on pulse pressure was likely small, at about 2 mmHg.

Ref: Cochrane Database of Systematic Reviews, February 2014.

Abstract

A randomized, double-blind study to evaluate the acid-inhibitory effect of vonoprazan (20 mg and 40 mg) in patients with proton-pump inhibitor-resistant erosive esophagitis

Katsuhiko Iwakiri, Yuuichi Sakurai, Madoka Shiino, Hiroyuki Okamoto, Kentaro Kudou, Akira Nishimura, Naoki Hiramatsu, Eiji Umegaki and Kiyoshi Ashida.
Department of Gastroenterology, Rakuwakai Otowa Hospital, Kyoto, Japan.

This randomized, double-blind, multicenter study of vonoprazan evaluated gastric and esophageal pH over a 24-hour period as the primary endpoint and EE (Erosive Esophagitis) healing rate as the secondary endpoint. Following a 7 to 14-day run-in period (lansoprazole 30 mg treatment), patients with endoscopically confirmed PPI-resistant EE received vonoprazan 20 mg or 40 mg for 8 weeks. Patients were randomized to receive vonoprazan 20 mg (n = 9) or 40 mg (n = 10). Over a 24-hour period; both groups showed a significant increase from baseline in the percentage of time gastric pH ≥ 4, referred to as pH 4 holding time ratio (HTR): an increase from 73.21% to 96.46% in the 20 mg group, and from 69.97% to 100.00% in the 40 mg group. Increases from baseline in esophageal pH ≥ 4 HTRs were not significant. The 40 mg group showed greater increases in gastric and esophageal pH 4 HTRs compared with the 20 mg group, but differences between groups were not significant. After 8 weeks treatment, the healing rate in subjects with baseline EE grades A–D was 60.0% (3/5 patients) in the 20 mg group and 71.4% (5/7 patients) in the 40 mg group. Vonoprazan was generally well tolerated. One patient (40 mg group) experienced four treatment-emergent adverse events (TEAEs) (unrelated to study drug), leading to study discontinuation. Vonoprazan 20 mg and 40 mg effectively inhibited gastric acid secretion over a 24-hour period with significantly increased gastric pH 4 HTR, and resulted in an EE healing rate > 60.0 % in this study. Vonoprazan treatment may be valuable for patients with PPI resistant EE.

Abstract

Five-year Clinical Trial on Atropine for the Treatment of Myopia 2

Audrey Chia
FRANZCO, PhD (Fellow of the Royal Australian and New Zealand College of Opthalmologists), Singapore National Eye Centre.

Low-concentration atropine is an emerging therapy for myopia progression, but its efficacy and optimal concentration remain uncertain. To compare the safety and efficacy of different concentrations of atropine eye drops in controlling myopia progression over 5 years, the ATOM2 study was conducted as a randomized, double-masked clinical trial involving 400 children aged 6–12 years. The study found that atropine 0.01% provided the best balance of efficacy and safety, reducing myopia progression to −1.38 diopters and axial elongation to 0.75 mm over five years lower than both the 0.1% (−1.83 D; 0.85 mm) and 0.5% (−1.98 D; 0.87 mm) concentrations. Atropine 0.01% caused only minimal pupil dilation (~0.8 mm) and mild accommodation loss (2–3 D), without affecting near or distance vision. Compared to higher concentrations, 0.01% also showed the least rebound effect after discontinuation. These findings confirm that atropine 0.01% is the most suitable long-term option for safe and effective myopia control in children.

Ref: Europe PMC, American Academy of Ophthalmology, February 2016.

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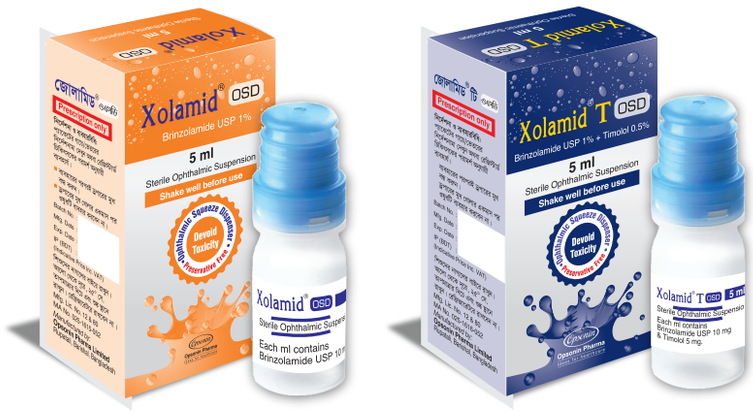

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*ACC: American College of Cardiology, AHA: American Heart Association, *ASCVD: Atherosclerotic Cardiovascular Disease

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Thank you for your continued support and partnership in our succesful journey. we are very greatful & will try to maintain this enormous relationship with you. Wishing you a splendid life filled with growth, laughter, and endless possibilities.

Mohammad Abdul Momen Talukder
Director, Sales & Marketing

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