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Ways Meditation Can Help You Achieve Sustainable Weight Loss - Page 6

Uncontrolled Blood Sugar Can Lead to Hair Loss, 2 Ways to Reverse It - Page 10

Health Digest

Dear Doctor,

We are proud to publish the next issue of the "Health Digest" written exclusively for medical professionals for their education and well-being.

Enjoy reading…

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1 Diagnosis and Management of Patients With Prediabetes

Importance Prediabetes, an intermediate stage between normal glucose regulation and diabetes, affects 1 in 3 adults in the US and approximately 720 million individuals worldwide.

Observations

- Prediabetes is defined by a fasting glucose level of 100 to 125 mg/dL,
- Glucose level of 140 to 199 mg/dL measured 2 hours after a 75-g oral glucose load,
- Glycated hemoglobin level (HbA1C) of 5.7% to 6.4% or 6.0% to 6.4%.

In the US, approximately 10% of people with prediabetes progress to having diabetes each year. A meta-analysis found that prediabetes at baseline was associated with increased mortality and increased cardiovascular event rates

Intensive lifestyle modification, consisting of calorie restriction, increased physical activity (≥150 min/wk), self-monitoring, and motivational support, decreased the incidence of diabetes by 6.2 cases per 100 person-years during a 3-year period.

Metformin decreased the risk of diabetes among individuals with prediabetes by 3.2 cases per 100 person-years during 3 years.

Metformin is most effective for women with prior gestational diabetes and for individuals younger than 60 years with body mass index of 35 or greater, fasting plasma glucose level of 110 mg/dL or higher, or HbA1c level of 6.0% or higher.

Conclusions and Relevance:

- Prediabetes is associated with increased risk of diabetes, cardiovascular events, and mortality.

- First-line therapy for prediabetes is lifestyle modification that includes weight loss and exercise or metformin.

- Lifestyle modification is associated with a larger benefit than metformin.

Commonly Asked Questions About Prediabetes

How often do patients with prediabetes progress to diabetes?

Randomized clinical trials reported annual rates of progression from prediabetes to diabetes that ranged from 5.8% to 18.3%, during an average follow-up period of approximately 3 years among untreated participants. A meta-analysis (including >250 000 participants followed for up to 24 years) reported a cumulative incidence of diabetes of 31% to 41% over a median follow-up of 12 years.

What is an effective lifestyle intervention for prediabetes?

Effective lifestyle interventions in randomized clinical trials consisted of calorie restriction, increased physical activity, self-monitoring of food intake and exercise behavior, along with support for managing psychological, social, and motivational obstacles. The American Diabetes Association recommends at least 7% weight loss through healthy diet and approximately 150 min/wk of moderate-intensity physical activity in people with prediabetes.

Should medications be prescribed to slow progression of prediabetes to diabetes?

American Diabetes Association recommends that metformin treatment should be considered for people with prediabetes, particularly those aged <60 years with body mass index ≥35, fasting plasma glucose ≥110 mg/dL, and HbA1C ≥6.0%, and for women with prior gestational diabetes.

Pathophysiology of Prediabetes

Compared with individuals with normal glucose regulation, those with prediabetes

-Have impaired fasting glucose tend to have higher or "inappropriate" endogenous glucose production because of hepatic insulin resistance

- Reduced hepatic glucose clearance, and lower ability of glucose to stimulate its own uptake and suppress its own production.

-Individuals with impaired fasting glucose also have impaired beta cell function.

- Impaired glucose tolerance is

predominantly characterized by skeletal muscle resistance that causes delayed glucose uptake, and by beta cell dysfunction.

Complications in Persons With Prediabetes

1.Progression to Diabetes

2.Microvascular and Macrovascular Complications

-Microvascular complications, including retinopathy, neuropathy, and nephropathy, are frequent among individuals with prediabetes

- Prediabetes has also been linked to a higher frequency of impaired cognition and structural brain alterations compared with normal glucose regulation.

Treatment for Prediabetes

Lifestyle Modifications

Among people with prediabetes, diabetes can be prevented with intensive lifestyle modification, such as diet and exercise

Drug Therapies

Several randomized clinical trials have demonstrated that, compared with placebo, metformin reduced the incidence of diabetes among people with prediabetes.

Although metformin was less effective than lifestyle modification in preventing progression to diabetes in the DPP, it had an effect similar to that of lifestyle modification among individuals with BMI 35 or greater (3-year crude diabetes

After 15 years of follow-up in the DPP Outcomes Study, metformin (vs placebo) had a greater effect on diabetes incidence in women with a history of gestational diabetes than in parous women without a history of gestational diabetes

Conclusions

Prediabetes is associated with increased risk of diabetes, cardiovascular events, and mortality. First-line therapy for prediabetes is lifestyle modification that includes weight loss and exercise or metformin.

2 Helicobacter pylori, Homologous-Recombination Genes and Gastric Cancer

BACKGROUND

Helicobacter pylori infection is a well-known risk factor for gastric cancer. However, the contribution of germline pathogenic variants in cancer-predisposing genes and their effect, when combined with H. pylori infection, on the risk of gastric cancer has not been widely evaluated.

METHODS

We evaluated the association between germline pathogenic variants in 27 cancer-predisposing genes and the risk of gastric cancer in a sample of 10,426 patients with gastric cancer and 38,153 controls from BioBank Japan. We also assessed the combined effect of pathogenic variants and H. pylori infection status on the risk of gastric cancer and calculated the cumulative risk in 1433 patients with gastric cancer and 5997 controls from the Hospital-based Epidemiologic Research Program at Aichi Cancer Center (HERPACC).

RESULTS

Germline pathogenic variants in nine genes (APC, ATM, BRCA1, BRCA2, CDH1, MLH1, MSH2, MSH6, and PALB2) were associated with the risk of gastric cancer. We found an interaction between H. pylori infection and pathogenic variants in homologous-recombination genes with respect to the risk of gastric cancer in the sample from HERPACC (relative excess risk due to the interaction, 16.01; 95% confidence interval [CI], 2.22 to 29.81; P=0.02). Persons with H. pylori infection and a pathogenic variant had a higher cumulative risk of gastric cancer than noncarriers infected with H. pylori (45.5% [95% CI, 20.7 to 62.6] vs. 14.4% [95% CI, 12.2 to 16.6]).

CONCLUSIONS

H. pylori infection modified the risk of gastric cancer associated with germline pathogenic variants in homologous-recombination genes.

Treat H.Pylori with Nexiken Kit, the only available comprehensive treatment for H.Pylori in Myanmar.

Stress linked to 37 percent higher chance of cognitive issues after 45

3

People 45 and older who have elevated stress levels have been found to be 37 percent more likely to have cognitive problems, including memory and thinking issues, than those who are not stressed, according to research published in the journal JAMA Network Open.

For more than a decade, the study followed 24,448 people who also are participants in a long-term, ongoing study on brain health. Periodically, the researchers used standardized testing to determine each participant's cognitive status. Their stress level - involving feelings or situations beyond their ability to cope - was self-assessed; about 23 percent of the participants reported high levels of stress.

Stress is considered a natural reaction when a person is under pressure; in the short term, it can provide positive motivation. For instance, it can push you to finish a project or to hit the brakes to avoid an accident. Chronic stress, however, can lead to various physical and mental health problems, including anxiety, depression, headaches, heart disease, high blood pressure, sleep problems and more.

This study's findings add cognitive problems to that list, with the researchers determining that risk for cognitive decline - also known as mild cognitive impairment, or MCI - was greater among the most stressed participants, regardless of age, race or sex.

The American Psychological Association notes that reducing stress should not only make you feel better now but also protect your health long term. How to do that varies from person to person, but the APA says it starts with determining the cause of your stress and developing a plan to address it.

4 Ways Meditation Can Help You Achieve Sustainable Weight Loss

When it comes to managing our weight, it's important to acknowledge the power of our thoughts and the influence of our emotions. By calming our emotions and becoming more mindful of our thought patterns, meditation can help us make healthier choices and achieve weight loss goals with lasting effects.

How Can Meditation Help Us Lose Weight?

Practicing meditation can help us lose weight in the following five ways:

1. Enhances Mindful Eating

Mindless eating during activities such as watching television, working at a computer, driving, or other multitasking, can increase our risk of overeating.

Meditation can help us practice mindful eating. When we eat mindfully, we are using our senses to experience and savor our food, as opposed to just using food to satisfy our hunger. Mindful eating helps us to enjoy our culinary experience as we nourish our body, and will help us avoid overeating.

2. Helps Control Binge and Emotional Eating

Binge-eating disorder is a serious and potentially life-threatening disorder in which an individual experiences episodes of consuming an unusually large quantity of food and feels unable to stop eating. Negative emotions can cause us to turn to food to try to calm our feelings.

Meditation can be an effective tool for controlling binge and emotional eating behaviors.

3. Improves Sleep Quality

Meditation can also help improve our sleep quality, which in turn "may lower inflammation and improve metabolic function to further support weight loss efforts.".

The study discovered that the better sleep health, the greater the weight and fat loss. Higher satisfaction, earlier sleep midpoints, and better sleep efficiency were all associated with more weight and/or fat loss.

This may be due to the fact that sleep deprivation affects ghrelin and leptin, which are both hormones that control our appetite.

Ghrelin, also known as the "hunger" hormone, signals our brain to feel hungry, so it's important in regulating our calorie intake.

According to a German study, just one night of sleep deprivation can increase our ghrelin levels and make us feel hungry.

Produced by our body's fat cells, leptin is a hormone that sends a signal to our brain to help us feel full, decreasing our appetite.

Less sleep is associated with the activation of our stress system, which causes our leptin levels to decrease. And leptin levels have been found to increase during sleep.

Since meditation can help us sleep longer

and better, it can cause our ghrelin levels to decrease and leptin levels to increase, thus helping us feel less hungry, curbing our calorie intake, and making weight loss easier.

4. Helps Us Stay Motivated to Lose Weight

"Individuals reach a more relaxed state by boosting the production of calm neurotransmitters, making it easier for them to stay motivated in their attempt at losing weight,"

A study of the neurophysiological and neural chemical mechanisms underlying the processes of meditation showed that during meditation, serotonin and GABA levels both increased.

Serotonin, also known as the "calming chemical," modulates our mood and cognition, among many other functions. GABA is an inhibitory transmitter, which can produce a calming effect in our body.

5. Reduces Stress Hormones That Cause Weight Gain

Several stress hormones can affect our weight as well.

For instance, our body releases cortisol in response to stress. Elevated levels of cortisol can increase our appetite and lead to weight gain.

Epinephrine, also known as adrenaline, and norepinephrine are both neurotransmitters that can lead to increased blood sugar levels and heart rate.

When high blood sugar levels drop, they can make us feel hungry and want to consume food.

High blood sugar levels can also lead to more insulin secretion as the body tries to process the excess blood sugar. Insulin is another stress hormone that regulates our body's sugar absorption. Specifically, insulin transports sugar into the cells, and if the sugar is not used, it is stored as fat. So the more insulin the body releases, the higher the chance of weight gain through increased fat storage.

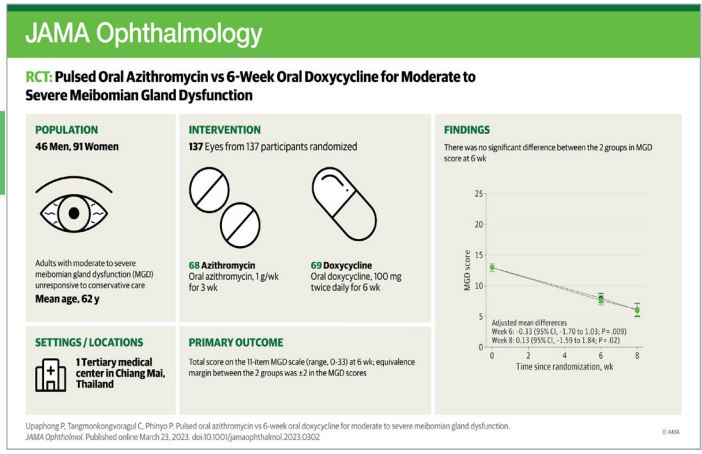
According to a Spanish study, the epinephrine and norepinephrine levels of regular meditators were significantly lower than those who didn't meditate. Therefore, it's reasonable to suggest that if meditation can reduce the epinephrine and norepinephrine levels in our bodies, then it also may result in better weight management.

Therefore, practicing meditation after we lose weight can help us maintain our weight, in addition to other health benefits.

In summary, meditation can help us lose weight by practicing mindful eating, reducing unnecessary calorie intake, improving sleep quality, decreasing the hormones that can cause weight gain, and helping us maintain the efforts of our weight loss.

5 Pulsed Oral Azithromycin vs 6-Week Oral Doxycycline for Moderate to Severe Meibomian Gland Dysfunction

A Randomized Clinical Trial



Key Points

Question Are the adverse effects of a 3-week course of weekly oral azithromycin equivalent to that of the 6-week course of oral doxycycline in treating moderate to severe meibomian gland dysfunction (MGD)?

Findings In this randomized clinical trial that included 137 eyes, at the 6- and 8-week follow-ups, the mean differences in total MGD scores between azithromycin and doxycycline were −0.33 and 0.13, respectively. At both time points, the differences were within the prespecified equivalence margin of 2.

Meaning A 3-week course of weekly oral azithromycin was equivalent to a 6-week course of oral doxycycline in treating moderate to severe MGD.

Abstract

Importance The treatment of moderate to severe meibomian gland dysfunction (MGD) with oral doxycycline requires a 6-week course of treatment and has frequent adverse effects (AEs), which may be associated with poor compliance.

Objective To determine if the AEs of a 3-week course of oral azithromycin were equivalent to the AEs of a 6-week course of oral doxycycline.

Interventions Patients were randomized 1:1 to receive oral azithromycin (1 g once per week for 3 weeks) or oral doxycycline (200 mg daily for 6 weeks).

Main Outcomes and Measures After initiating therapy, the study team assessed the total MGD score and Ocular Surface Disease Index (OSDI) score at the initial visit, at 6 weeks, and at 8 weeks, and assessed AEs at 6 weeks and 8 weeks. The prespecified equivalence margins for MGD score and OSDI score were set at ±2 and ±9, respectively.

Conclusions

In this study, the efficacy of a regimen of pulsed oral azithromycin was equivalent to that of a daily 6-week course oral doxycycline for the signs and symptoms of moderate to severe MGD in which conservative therapy has failed. Furthermore, the study did not show more GIAEs in the azithromycin group. The reduced dosing of azithromycin supports its use as an alternative to doxycycline for at least 6 weeks. However, longer-term follow-up in each group would be needed to determine if these outcomes persist for this chronic condition.

6 Vitamin D: 4 Ways Supplementation Can Improve Elderly Health

Boosting levels coincides with lowered risk of debilitating mental and physical diseases

Vitamin D deficiency is often accompanied by symptoms and diseases that are casually dismissed as "old age."

Vitamin D, which acts more like a hormone than a vitamin, plays several important roles and can affect everything from cognition to cancer. Among its roles, it helps control calcium and phosphate levels in the body.

What sometimes appears to be rapid physical and cognitive deterioration associated with aging, can actually be vitamin D deficiency, could be avoided with supplementation.

Vitamin D deficiency has been linked to osteoporosis, cardiovascular disease, cancer, diabetes, autoimmune diseases, and depression. A majority of the population worldwide is vitamin D deficient.

Vitamin D deficiency has a varied list of symptoms

- fatigue, weakness, brain fog, and anxiety that accompany a plethora of diseases.

It's also possible that vitamin D deficiency may be present with no symptomns

1.Vitamin D Lowers the Risk of Dementia

A new study examining the vitamin D supplementation habits of 12,388 participants from the National Alzheimer's Coordinating Center data linked supplementation to significantly lower rates of dementia. Results were published this month in Alzheimer's & Dementia: Diagnosis, Assessment and Disease Monitoring.

2. Vitamin D Reduces Recurrent Vertigo

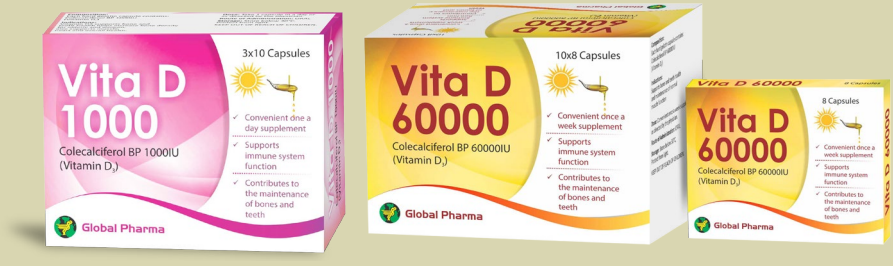
A study published in 2020 in Neurology found that those who supplemented with vitamin D (and calcium) to get to a minimum level of 20 ng/mL of 25 (OH) D reduced their chances of recurrent episodes of benign paroxysmal positional vertigo, the most common type that happens when a change in head position causes a spinning sensation.

Study suggests an inexpensive, low-risk treatment like vitamin D and calcium tablets may be effective at preventing this common, and commonly recurring, disorder."

3. Vitamin D Helps Prevent Cancer

When it comes to advanced cancer, vitamin D supplementation can extend life, according to a 2020 study published in the Journal of the American Medical Association. In a clinical trial of 25,871 patients, vitamin D reduced the risk of metastatic or fatal cancers in those with a normal body mass index.

The Vitamin D Council highly recommends women with breast cancer take 5,000 to 15,000 IU per day of vitamin D and check levels to ensure that they stay above 70 ng/ml. For prevention, the level recommended is 60 ng/ml. Several studies show a benefit associated with reducing breast cancer.



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Uncontrolled Blood Sugar Can Lead to Hair Loss, 2 Ways to Reverse It

Hair loss and baldness can be distressing conditions for both men and women. They can have a significant impact on one's appearance and are difficult to treat, which can cause psychological stress for patients.

In addition to genetic factors, hair loss and baldness can be caused by insulin resistance and poor blood sugar control. Without addressing these underlying issues, treating hair loss can be challenging.

Hair Loss May Be Associated With Insulin Resistance and Uncontrolled Blood Sugar

Male pattern baldness is one of the common causes of hair loss, and it is believed to be caused by abnormal secretion of male hormones. The pattern of hair loss may differ by gender: Men typically experience a receding hairline and balding at the crown, while women may have thinning hair on the top of the head.

The common treatments for male pattern baldness include oral medications like finasteride, topical hair lotions, and hair transplantation. However, finasteride may cause side effects such as sexual dysfunction and drowsiness in a small percentage of patients, and topical hair lotions may cause allergic reactions and have limited effectiveness.

People tend to focus solely on the abnormal levels of male hormones that cause male pattern baldness, but treating only the male hormones may not be sufficient to improve the condition. This is because patients with male pattern baldness often have insulin resistance.

Clinical experience have shown that by regulating patients' blood sugar and insulin resistance, not only can their conditions be controlled and improved, but their hair may also regrow.

Studies have shown that insulin and male hormones in the body are interrelated. Insulin may stimulate the production of androgens, while elevated androgen levels are associated with conditions such as hyperinsulinemia and insulin resistance.

Some studies have suggested that male pattern baldness may be influenced by factors beyond genetics, such as smoking and metabolic syndrome (i.e. insulin resistance).

Metabolic syndrome is characterized by a large waistline and abdominal obesity, and although individuals with this condition may not have developed diabetes, they often experience hair loss as a symptom.

The accumulation of fat in the abdominal tissue can lead to metabolic disorders, such as insulin resistance, hyperinsulinemia, hypertension, glucose intolerance, and diabetes. Insulin resistance can affect the normal function of endothelial cells in blood vessels, leading to local-tissue hypoxia, microvascular insufficiency, and miniaturization of hair follicles, ultimately resulting in hair loss and baldness.

Additionally, research has found that people with a family history of hair loss, who also have metabolic syndrome, are more likely to start experiencing hair loss before the age of 30.

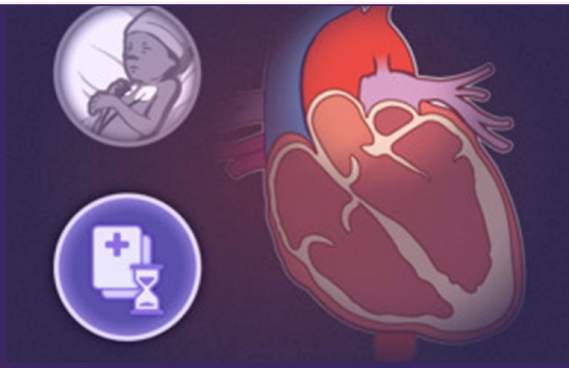
People with diabetes might experience hair loss and baldness as potential complications, especially when their glycated hemoglobin levels consistently exceed 10 percent. This can result in significant hair loss over time.

Insulin as a Short-Term Solution for Hair Regrowth

In addition to managing insulin resistance and stabilizing blood sugar through proper diet, some patients with type 2 diabetes who experience male pattern baldness may have a chance to regrow hair through certain treatments, such as insulin injection therapy.

Some patients may only need short-term insulin injections until their blood sugar levels stabilize, after which they can discontinue them. Patients who receive insulin injection therapy typically experience gradual stabilization of their blood sugar control levels within two to three months. After about six months, their hair will start to regrow, with the new hair predominantly being the person's natural color.

8 Expectant Management or Early Ibuprofen for Patent Ductus Arteriosus



Cyclooxygenase inhibitors are commonly used in infants with patent ductus arteriosus (PDA), but the benefit of these drugs is uncertain.

METHODS

In this multicenter, noninferiority trial, random assignement of infants with echocardiographically confirmed PDA (diameter, >1.5 mm, with left-to-right shunting) who were extremely preterm (<28 weeks' gestational age) was done to receive either expectant management or early ibuprofen treatment.

The composite primary outcome included necrotizing enterocolitis (Bell's stage IIa or higher), moderate to severe bronchopulmonary dysplasia, or death at 36 weeks' postmenstrual age.

The noninferiority of expectant management as compared with early ibuprofen treatment was defined as an absolute risk difference with an upper boundary of the one-sided 95% confidence interval of less than 10 percentage points.

CONCLUSIONS

Expectant management for PDA in extremely premature infants was noninferior to early ibuprofen treatment with respect to necrotizing enterocolitis, bronchopulmonary dysplasia, or death at 36 weeks' postmenstrual age.)

9 ACOG guidelines regarding non-hormonal medical therapy for the management of acute bleeding in adolescents

Heavy menstrual bleeding is characterised by excessive menstrual blood loss, which interferes with a woman's social, physical, emotional, or material quality of life. The most common bleeding disorders in adolescent girls that are manifested as heavy menstrual bleeding include platelet function defects, thrombocytopenia, von Willebrand disease, and clotting factor deficiencies.

The American College of Obstetricians and Gynaecologists (ACOG) makes the following recommendations regarding non-hormonal medical therapy for the management of acute bleeding in adolescents:

- Medical management is the first-line therapy for acute bleeding. Surgery should be reserved for those who fail to respond to medical therapy.
- Hospitalisation is advised for adolescents who are haemodynamically unstable or actively bleeding heavily

Acute management of heavy bleeding depends on the following:

a) Clinical stability
b) Overall acuity
c) Suspected aetiology of the bleeding
d) Underlying medical problems.

- Antifibrinolytics such as Tranexamic acid or Aminocaproic acid in oral and intravenous form can also be used to stop bleeding.

Drug	Suggested dose	Dose schedule
Tranexamic acid	1.3 g orally or 10 mg/Kg IV (maximum 600 mg/dose)	3 times per day for 5 days (every 8 hours)

- The prescribing information for Tranexamic acid lists the concomitant use of OCs as a contraindication attributed to the theoretical risks of thrombosis. Oestrogen enhances the level of clotting factors (VII, VIII, X, fibrinogen) and plasminogen, reduces antithrombin III and protein S levels, alters activated protein C resistance and in turn affects haemostasis. Tranexamic acid hinders fibrinolysis. However, despite the theoretical risk of thrombosis, the concurrent administration of tranexamic acid and oral contraceptives (OCs) are implicated in case of failure of monotherapy. An increased risk of venous thromboembolism is not reported, although the supportive evidence is limited.
- It is an important treatment modality to regulate bleeding in this population and a reasonable approach to management when other options fail to work.

10 Azithromycin to Prevent Sepsis or Death in Women Planning a Vaginal Birth

BACKGROUND

The use of azithromycin reduces maternal infection in women during unplanned cesarean delivery, but its effect on those with planned vaginal delivery is unknown. Data are needed on whether an intrapartum oral dose of azithromycin would reduce maternal and offspring sepsis or death.

Maternal infections, particularly sepsis, during the peripartum period account for 10% of maternal deaths and are among the top three causes of maternal death worldwide.1 The proportion of deaths that are caused by infection has increased over time, whereas deaths from causes such as hemorrhage and preeclampsia have remained stable or decreased.1 Neonatal sepsis, accounting for 16% of neonatal deaths, is the third most common cause of neonatal death.

Furthermore, maternal infection increases the risk of neonatal sepsis.

The World Health Organization (WHO) and others have prioritized the reduction of maternal sepsis to decrease the risk of maternal death. Such efforts have included the evaluation of the use of prophylactic antibiotics in women who are giving birth. In a randomized trial of adjunctive azithromycin prophylaxis for cesarean delivery performed during labor, investigators found a 50% lower incidence of maternal infection in the azithromycin group than in the placebo group, as well as lower costs. As a result, adjunctive azithromycin prophylaxis is now recommended in the United States and elsewhere for women undergoing cesarean delivery during labor. In another trial, a single intrapartum oral dose of 2 g of azithromycin reduced maternal and neonatal infection in women who were planning a vaginal delivery in Gambia.

We performed the Azithromycin Prevention in Labor Use Study (A-PLUS) to test the two primary hypotheses that a single oral dose of azithromycin in women in labor who were planning a vaginal delivery would reduce maternal sepsis or death along with stillbirth or neonatal death or sepsis.

Methods

OUTCOMES

The two primary outcomes were a composite of maternal sepsis or death within 6 weeks after delivery and a composite of stillbirth or neonatal death or sepsis within 4 weeks. Maternal sepsis was defined according to WHO criteria as suspected or confirmed infection including fever (>100.4°F or 38°C) or hypothermia (<96.8°F or 36°C) plus one or more signs of organ dysfunction: tachycardia

(≥120 beats per minute), low systolic blood pressure (<90 mm Hg), tachypnea (>24 breaths per minute), altered mental status or confusion, reduced urinary output (<500 ml over 24 hours), jaundice, or renal failure (creatinine level, >1.2 mg per deciliter).

Neonatal sepsis was defined as a proven or possible serious bacterial infection on the basis of the following WHO criteria: severe chest in-drawing, fever (≥100.4°F or 38.0°C), hypothermia (<95.9°F or 35.5°C), no movement or movement only on stimulation, poor or no feeding, convulsions, pneumonia, or meningitis.

Secondary maternal outcomes were the components of the primary outcome; specific infections, including chorioamnionitis, endometritis, wound infections, abdominal or pelvic abscess, mastitis or breast abscess, pneumonia, or pyelonephritis; and therapeutic use of antibiotics, duration of hospital stay, readmission, admission to a special care unit, and unscheduled health care visits. Key secondary neonatal outcomes were the components of the primary outcome, other infections, the duration of hospital stay, readmission, admission to a special care unit, unscheduled health care visits, and safety outcomes. We examined the results of bacterial growth and antimicrobial resistance from clinical cultures, including blood samples. Safety outcomes were reported as maternal or neonatal adverse events, including medication side effects (nausea, vomiting, and diarrhea) and allergy (anaphylaxis, liver failure, arrhythmias, and infant pyloric stenosis).

Discussion

In this multicountry, randomized trial involving pregnant women in labor who were planning a vaginal delivery, azithromycin prophylaxis led to a significantly lower frequency of maternal sepsis or death than placebo but had little effect on stillbirth or neonatal sepsis or death.

Maternal deaths were infrequent in both groups; findings were driven by the effects of azithromycin on maternal sepsis. The frequencies of selected maternal infections that cause sepsis (including endometritis, cesarean or perineal wound infections, and pyelonephritis) maternal readmissions, and unscheduled health care visits were consistent with the primary maternal results

Our results are consistent with findings from a large U.S. trial and other studies involving the use of azithromycin in women who had undergone a cesarean delivery and received usual antibiotics.

In the U.S. trial, the use of azithromycin resulted in a lower incidence of maternal infections (including a 50% lower risk of endometritis and wound infections) than the use of placebo and was associated with fewer readmissions or unscheduled care visits but did not affect newborn outcomes.

Our finding of maternal benefit was also consistent with the results of two small trials involving women in labor who were planning a vaginal delivery: one trial involving high-risk women in Cameroon and the other involving women regardless of risk in Gambia.

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