

COMMENT & CONTROVERSY

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"Is the end of an era here for magnesium sulfate tocolysis?" by Robert L. Barbieri, MD (Editorial, January)

With the right treatment, preterm birth can be averted

I strongly agree with Dr. Barbieri's comments regarding preterm labor. Diagnosed early using transvaginal ultrasonography instead of pelvic assessment, it is possible with the help of bed rest, terbutaline, nifedipine, 17 α -hydroxyprogesterone caproate, betamethasone, and morphine sedation to tame the cervix and gain several weeks instead of the 2 to 7 days reported. It also is essential to treat group B *Streptococcus*.

In addition, if the physician decides to start the terbutaline pump, it is important to discontinue intravenous infusion so that the patient does not get too much fluid and develop pulmonary edema.

Ali Toofanian, MD
Dallas

Low power limits findings in regard to magnesium

There are no universal guidelines or protocols delineating when therapy should be commenced for preterm labor—or which treatment is preferred. However, the use of pharmacotherapy for tocolysis remains the mainstay of management of preterm labor, the most popular agents being magnesium sulfate, betamimetics, and calcium-channel blockers.

One goal of treatment is to delay birth for 48 hours so that corticosteroids can be administered to prevent respiratory complications or the mother can be

transferred to a facility where an appropriate level of care can be delivered.

The Cochrane review of 23 trials involving 2,036 women did not find magnesium to be superior to control treatments.¹ However, if that investigation is narrowed to include only studies focusing on the goal of preventing preterm birth within 48 hours, only 11 trials

involving 881 women are relevant. Given that the test for heterogeneity chi-square = 20.74, with a *P* value of .02, and *I*² = 51.8%, a larger number of trials should be included to improve the power of the meta-analysis, and the individual trials themselves should have better power.

Therefore, it remains unclear whether magnesium effectively prevents preterm birth for 48 hours, compared with other agents. However, its lower side-effect profile may warrant its use in particular situations.

Brandon Daniels, MD, Ray Mercado, DO,
Theodore Hale, MD, and Jamie Le
Lincoln Medical and Mental Health Center
Bronx, NY

Reference

1. Crowther CA, Hiller JE, Doyle LW. Magnesium sulfate for preventing preterm birth in threatened preterm labour. Cochrane Database Syst Rev. 2002;(4):CD001060.

Cause of preterm labor may be psychological

At the conclusion of his editorial on magnesium sulfate, Dr. Barbieri mentioned the need for more research. I'd like to propose another reason we haven't solved the problem of preterm labor: We have overlooked the factor of stress.

From what I can see, there are many

If the terbutaline pump is started, discontinue IV infusion so that the patient does not develop pulmonary edema

CONTINUED ON PAGE 24

tients in addition to a coordinated plan of dietary and exercise therapy.

Bottom line: Use clomiphene first

This study points us back to the long-standing practice of using clomiphene citrate as frontline therapy for ovulation induction in women with PCOS, with the additional caveat that body size is a critical modifier of this therapy. However, the cumulative ovulation rate of about 40% and cumulative conception rate of about 20% in women with a BMI less than 35 taking metformin make that drug a reasonable frontline option for couples very concerned about multiple gestation or significant side effects with clomiphene. ■

Reference

1. Palomba S, Orio F Jr, Falbo A, et al. Prospective parallel randomized, double-blind, double-dummy controlled clinical trial comparing clomiphene citrate and metformin as the first-line treatment for ovulation induction in nonobese anovulatory women with polycystic ovary syndrome. *J Clin Endocrinol Metab*. 2005;90:4068-4074.

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gravidas who are in no way prepared to handle the responsibilities of pregnancy or parenthood. The psychological stress these women are under should not be underestimated as a possible cause of preterm labor. Many of these women don't even realize how stressful their life is.

We need to educate our young about the responsibility involved in raising a child, and we need to encourage the media and entertainment community to start sending the message that sex is not to be taken lightly but leads to very serious responsibilities.

Jerome A. Klobutcher, MD
Des Plaines, Ill

Dr. Barbieri responds:

Until more data come in, avoid magnesium sulfate

I appreciate the perspectives provided by Dr. Toofanian and Dr. Klobutcher, as well as by Dr. Daniels and colleagues. As experienced clinicians, they all clearly recognize how difficult and frustrating it is to treat the multifactorial causes of prematurity, including the contribution of complex environmental factors such as psychosocial stress in the mother.

I agree with Dr. Toofanian that multimodal treatment of preterm labor might delay birth, but that great care must be taken to avoid adverse effects, such as maternal pulmonary edema.

Dr. Daniels and associates are correct that we need additional studies comparing magnesium sulfate to a placebo for the treatment of preterm labor. Until additional data indicate the effectiveness of magnesium, it is my "subjective" opinion that patients in preterm labor are best served by treatment with nifedipine, a β -agonist, or indomethacin. A continuing concern is that magnesium sulfate treatment of preterm labor, especially at dosages greater than 2 g/h, may be associated with adverse newborn outcomes. ■