Letters
Correspondance

Should we treat strep throat with antibiotics?

I congratulate Drs Worrall, Hutchinson, Sherman, and Griffiths on their research article in the April 2007 issue of *Canadian Family Physician*.[1] They compared rapid antigen detection tests and clinical examination for differentiating sore throats of viral and bacterial etiology. They concluded that use of rapid antigen detection kits in primary care settings could reduce the prescribing rate of antibiotics for sore throats.

An equally interesting question is, Why do we treat sore throats with antibiotics at all?

As mentioned in the article, symptoms caused by a bacterial sore throat fail to clear much faster when treated with antibiotics than they would if left alone.

Do we treat to prevent rheumatic fever and glomerulonephritis? There is no convincing evidence that, for the Western world, treating streptococcal sore throats with penicillin prevents either of these conditions. Common sense might tell us that if we were to consider the number of patients who do not visit their doctors when they have sore throats and the cases of bacterial sore throats that do not receive antibiotics because we misdiagnose them as viral, there must be thousands of cases of untreated strep throat every year in this country alone. Should we then not be seeing more rheumatic fever and glomerulonephritis?

Do we treat because we feel that patients expect antibiotics? Many of my patients are terrified of strep. Mothers who fail to vaccinate their children because they do not believe in tetanus, polio, diphtheria, and pertussis ("and vaccination is so unnatural, Doctor") will rush those same children into my office every time they have sore throats. It is certainly easier and quicker to hand out prescriptions every time than to explain and reassure. Each time we do this, however, we reinforce patients' fears.

Do family physicians have to declare a conflict of interest in answering these questions? If we were to lower ourselves to examining the vulgar subject of money, it is certainly in our financial interest to keep many patients scared enough to rush to our offices whenever they get sore throats.

In view of the large number of antibiotics prescribed for sore throats, perhaps it is time to review whether we should be using such treatment for strep throat infections at all.

—Pol Morton MD CCFP
Glenboro, Man
by e-mail

Reference

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Recommend ω-3 fatty acids in pregnancy?

Thank you for your Motherisk Update on ω-3 fatty acid supplementation during pregnancy.[1] I agree that the essential fatty acids linoleic acid, α-linolenic acid, docosahexaenoic acid (DHA), eicosapentenoic acid, and arachidonic acid are all essential components of the human brain and are all required for normal brain development and function.

It is important to remember the effects of ω-3 fatty acids on cell and cell membrane function. Docosahexaenoic acid has "significant effects on photoreceptor membranes and neurotransmitters involved in the signal transduction process; rhodopsin activation, rod and cone development, neuronal dendritic connectivity, and functional maturation of the central nervous system."[2]

I also agree that ω-3 fatty acids benefit preeclampsia, or pregnancy-induced hypertension, in observational studies. Reference 10,[3] however, is used in the article for both observational and interventional trials. Which is it?

Second, reference 11[4] is used in the article to indicate that this interventional trial does not support benefit in preventing preeclampsia, when the opposite is true. This article showed improvement in gestational age (primary outcome) by about 6 days, which was statistically significant. It also showed improvement of birth weight (primary outcome), length, and head circumference (secondary outcomes), but these improvements were not statistically significant. Preeclampsia was not discussed beyond being listed in Table 3 of the article. Those taking high levels of DHA (interventional group) had a relative risk reduction of about 50% for developing preeclampsia and the number needed to treat to prevent 1 case of preeclampsia was 30, which certainly favours some benefit. Please explain.

The recent study[5] that shows potential harm from ω-3 fatty acids and fish consumption is done in a community that traditionally has a high fish intake and might have an unaccounted confounder. Background levels of methylmercury were not taken in this population—a major concern in similar populations.[6] It is recognized that hypertension has been induced by chronic ingestion of methylmercury among rats.[7] Human exposure is a relatively new area of medicine and information is exploding at this time. The reason for the adverse outcome of the study might relate to toxicity, a point not mentioned in the article.

Third, I am disturbed by the conclusion of the article that no recommendations should be made to encourage women to take ω-3 fatty acid supplements. It has been estimated that the brain alone accumulates 67 mg DHA daily in the third trimester.[8] Canada was the first country to recommend fatty acid intake, and international guidelines have been making recommendations since 1999.

The International Society for the Study of Fatty Acids and Lipids, a scientific society, recommends adequate intakes of 4.44 g of linoleic acid and 2.22 g of α-linolenic acid, with ≥0.22 g of DHA and 0.22 g of eicosapentenoic acid for adults and ≥0.3 g of DHA daily for pregnant women.[9] Two excellent studies in Canada have shown that women rarely achieve these intakes and that more than 80% do not meet these requirements.[10,11] If Canadian women are deficient in DHA, if women are choosing to limit seafood intake in pregnancy because of public health warnings about toxicant exposure,[12] and if DHA is absolutely required for fetal brain development as the article correctly states, where do the authors propose that pregnant women obtain these required nutrients other than through supplementation? Public health recommendations have been discussed in other articles on this important topic.[13]

Finally, it would be appreciated if all sources of funding (including industry support) to the individual authors and the Motherisk program, as well as potential conflicts of interest, were fully disclosed in the article as is standard protocol with medical journals.

—Gerry Schwalfenberg MD CCFP
Edmonton, Alta
by e-mail

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Response

We thank Dr Schwalfenberg for his interest in Motherisk Update. Our recent review regarding ω-3 fatty acids during pregnancy[1] begins with a clinical question, as is customary with Motherisk Updates. The question was about whether ω-3 supplementation should be recommended to pregnant women and not whether it affects the human brain, photoreceptors, and cell functions in general. Therefore, the focus of the review was to look at the available interventional trials of ω-3 supplementation during pregnancy, which sometimes contradict what was previously believed based on observational studies.

Our review delineates the possible areas of benefit, but concludes, "Until evidence accumulates, no recommendation should be made to encourage pregnant women to take ω-3 fatty acid supplements." A similar conclusion was drawn in another recent, similar paper.[2] A meta-analysis of the highest-quality randomized control trials on ω-3 supplementation during pregnancy (published after the submission of our review and hence not included) concluded that ω-3 supplementation did not influence the rates of preterm deliveries, preeclampsia, eclampsia, or infants with low birth weights.[3] There was also no influence on birth weight. Adding these findings to our discussion strengthens our conclusion that there is no clear benefit of ω-3 fatty acid supplementation to maternal or infant health.

To the specific points raised by Dr Schwalfenberg: reference 10 is used in the article for both observational and interventional trials because it is a review article describing both. The second point concerns the prevalence of preeclampsia in the paper by Smuts et al[4]; it is a matter of basic statistical analysis. The "50% risk reduction" in prevalence between groups is not statistically significant, with χ^2 analysis yielding $P=.3$. Finally, the relevant sources of funding to the authors and the Motherisk program and potential conflicts of interest were fully disclosed in the article. These are routinely found at the end of the article in the Motherisk box.

—Gal Dubnov-Raz MD MSc
—Yaron Finkelstein MD
—Gideon Koren MD FRCPC
Toronto, Ont
by e-mail

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Canadian Family Physician
College of Family Physicians of Canada
2630 Skymark Ave, Mississauga, ON L4W 5A4

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Le Médecin de famille canadien
Collège des médecins de famille du Canada
2630 avenue Skymark, Mississauga, ON L4W 5A4