Omega-3 Fatty Acids for Depression in Pregnancy

TO THE EDITOR: Recently, omega-3 polyunsaturated fatty acid augmentation of antidepressant medications was demonstrated as providing significant benefit in a 4-week, parallel-group, double-blind study (1) and our 8-week study (unpublished data of K.-P. Su et al.).

Depression during pregnancy affects both the mother and the child. Most drugs pass from mother to baby through the placenta in different degrees. Medicating depressed pregnant patients is a clinical dilemma. Omega-3 polyunsaturated fatty acids, with a possible antidepressant effect (1) and a lack of teratogenicity for the fetus (2), seem to be a favorable treatment alternative. We report here what is to our knowledge the first case of successful treatment with omega-3 polyunsaturated fatty acid monotherapy of a pregnant patient with major depressive disorder.

Ms. A was a 34-year-old married woman who came to our psychiatric service for a recurrent depressive episode at the 24th week of pregnancy. She had had a first major depressive episode 5 years earlier, when she was pregnant with her first baby. Ms. A did not receive any drugs, and the depressive episode remitted 9 months after childbirth. She had another two major depressive episodes between these two pregnancies, and she responded well to paroxetine, 20 mg/day.

When she came to our hospital, Ms. A refused antidepressant agents because of possible teratogenic effects and took only lorazepam, as needed, for insomnia. She did not have any history of substance abuse or any significant medical condition that might account for her depression. The results of laboratory tests (CBC and blood chemistry) were within normal limits.

Ms. A signed our informed consent form and began to take 4 g of ethyl eicosapentaenoic acid (EPA) and 2 g of docosahexanoic acid (DHA) per day, beginning in the 25th week of gestation. She was rated with the 21-item Hamilton Depression Rating Scale at every visit: weeks 0 (before EPA-DHA supplementation), 2, 4, 6, 10, and 18 (6 weeks after delivery).

Ms. A did not have any change in score between weeks 0 (Hamilton depression scale score=28) and 2 (score=29) but showed improvement in depressed mood, anhedonia, feelings of worthlessness, hopelessness, and guilt at week 4 (score=18) and experienced the disappearance of suicidal ideation at week 6 (score=10). After that, only initial insomnia and anxious feelings bothered Ms. A occasionally (week 10: score=6). She received paroxetine, 20 mg/day, after delivery, and her condition has remained stable (week 18: score=7). The baby was delivered and appeared normal in a general physical and neurobehavioral examination at birth.

We have previously reported on a pregnant woman with acute schizophrenia who showed improvement after omega-3 polyunsaturated fatty acid monotherapy (3). We believe that this case is the first report of a pregnant patient with major depressive disorder who was treated with omega-3 polyunsaturated fatty acid monotherapy. Since the patient received regular follow-up for 6 weeks before treatment with omega-3 polyunsaturated fatty acids, it is unlikely that the remarkable improvement was due to the clinical attention of regular visits. Because the patient had a depressive episode during her first pregnancy and after childbirth, we do not think that she had a spontaneous remission from this episode. Her improvement of depression was likely due to omega-3 polyunsaturated fatty acid treatment.

Reduced maternal DHA status after the second trimester (4) is associated with a high demand from the developing fetus for the rapid formation of its brain. Empirical studies of polyunsaturated fatty acids in the tissues (5), data from epidemiologic surveys (6), and results of therapeutic trials of polyunsaturated fatty acids (1) suggest that a deficit in omega-3 polyunsaturated fatty acids might cause major depressive disorder (7, 8). Supplementation with omega-3 polyunsaturated fatty acids is thought to have protective effects for pregnancy outcome in high-risk pregnancy (2). Because of its safety and psychotherapeutic effects, as well as its promotion of health for mothers and their infants, treatment with omega-3 polyunsaturated fatty acids is a promising approach for pregnant patients with major depressive disorder.

References

1. Nemets B, Stahl Z, Belmaker RH: Addition of omega-3 fatty acid to maintenance medication treatment for recurrent unipolar depressive disorder. Am J Psychiatry 2002; 159:477–479
2. Olsen SF, Sorensen JD, Secher NJ, Hedegaard M, Henriksen TB, Hansen HS, Grant A: Randomised controlled trial of effect of fish-oil supplementation on pregnancy duration. Lancet 1992; 339:1003–1007
3. Su KP, Shen WW, Huang SY: Omega-3 fatty acids as a psychotherapeutic agent for a pregnant schizophrenic patient. Eur Neuropsychopharmacol 2001; 11:295–299
4. Hornstra G: Essential fatty acids in mothers and their neonates. Am J Clin Nutr 2000; 71(5 suppl):1262S–1269S
5. Peet M, Murphy B, Shay J, Horrobin D: Depletion of omega-3 fatty acid levels in red blood cell membranes of depressive patients. Biol Psychiatry 1998; 43:315–319
6. Hibbeln JR: Fish consumption and major depression (letter). Lancet 1998; 351:1213
7. Horrobin DF, Bennett CN: Depression and bipolar disorder: relationships to impaired fatty acid and phospholipid metabolism and to diabetes, cardiovascular disease, immunological abnormalities, cancer, ageing and osteoporosis: possible candidate genes. Prostaglandins Leukot Essent Fatty Acids 1999; 60:217–234
8. Su KP, Shen WW, Huang SY: Effects of polyunsaturated fatty acids on psychiatric disorders (letter). Am J Clin Nutr 2000; 72: 1241

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Electrolyte-Balanced Sports Drink for Polydipsia-Hyponatremia in Schizophrenia

TO THE EDITOR: It is estimated that 10%–25% of patients with chronic schizophrenia develop polydipsia (1–4). One-third become hyponatremic. Seizures, coma, and death may occur when sodium levels fall below 120 mmol/liter (1). It is unclear why these patients develop polydipsia; one possibility is that enlargement of the ventricles impairs their baroreceptors.