Omega-3s Boost Mood Throughout Pregnancy

BY NANCY A. MELVILLE
Contributing Writer

SCOTTSDALE, ARIZ. — With growing concerns about treatment of depression in pregnancy, omega-3 fatty acids are gaining attention as a possible treatment that might be without risk and exceptionally healthful for mother and child, Marlene Freeman, M.D., said at a psychopharmacology conference sponsored by the University of Arizona.

Omega-3 fatty acids, best known for their cardiovascular benefits (including reduction of triglyceride levels and thrombosis risk) gained even more attention when epidemiologic studies showed lower rates of depression in countries with high consumption of omega-3–rich seafood and higher depression rates in countries where fish consumption is lowest (Lancet 1998;351:1213 and J. Affect. Disord. 2002;69:15-29).

Omega-3 fatty acids can become depleted during pregnancy and lactation anyway, so the suggestion that they might play a role preventing depression in pregnancy is even more intriguing—especially with recent research raising concerns of a possible neonatal withdrawal syndrome associated with use of selective serotonin reuptake inhibitors during pregnancy, said Dr. Freeman, director of the university's women's mental health program in Tucson.

In addition to the epidemiologic research, studies looking at omega-3s and depression have included four double-blind, placebo-controlled trials. In three of the studies, involving treatment-resistant patients, a significant response was seen in the omega-3 groups, who received widely varying doses of marine sources of omega-3 fatty acids, including eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

Dosages in the three positive studies ranged from 1 g of EPA all the way up to 9.6 g of EPA and DHA.

In a fourth study involving 35 subjects, however, there was no separation seen between the treatment group receiving 2 g of DHA and placebo (Am. J. Psychiatry 2003;160:996-8).

A non–peer reviewed study looking specifically at the role of omega-3 fatty acids in depression among pregnant women and involving nearly 14,000 pregnant British women showed higher depression scores correlating with lower seafood intake. The study indicated a protective effect of omega-3 acids not only at 18 weeks' gestation but also at 8 weeks and 32 weeks post partum.

The most recent findings out of Dr. Freeman's lab shed more light on issues such as palatability and efficacy. In a small, open-label, flexible-dose study of 15 patients using doses up to 2.8 g/day of EPA and DHA, patients showed a mean decrease on the Edinburgh Postnatal Depression Scale (EPDS) of 39% and a mean decrease of 34% on the Hamilton Rating Scale for Depression.

The longer patients stayed in the study, the better they did, with a 40% EPDS decrease at 4 weeks and a 49% decrease at 8 weeks; however, Dr. Freeman said the figures were very biased, and she emphasized that more follow-up is necessary.

"We do think omega-3s look like an acceptable potential treatment option, but more research is needed," Dr. Freeman said.

The study also indicated that the dosage of omega-3 tablets, which included up to six large capsules a day, was surprisingly well tolerated.

"We were concerned about giving pregnant women these big capsules because of problems like morning sickness, heartburn, and other gastrointestinal symptoms that can go along with pregnancy," she said. "Overall, the doses were amazingly well tolerated."

The highest levels of omega-3 fatty acids are found in fatty fish. In addition to their known cardiovascular benefits, the compounds have been associated with benefits ranging from brain and retinal development to prevention of breast and lung cancer.

The news gets even better, she said, in terms of their possible benefits for infants, with reports linking omega-3 intake in pregnant mothers to better sleep patterns in infants and higher IQs.

In terms of the role of omega-3 fatty acids in depression, theories on the possible mechanisms of action vary widely and include increased serotonergic activity, inhibition of protein kinase C, anti-inflammatory properties, suppression of phosphatidylinositol-associated second messenger activity, and increases in heart-rate variability.

Plant sources such as flaxseed offer some omega-3s, but seafood has far richer concentrations. Supplements such as fish oil tablets are also beneficial. ■

Emergency Visit Is Lost Opportunity for Screening

BY DIANA MAHONEY
New England Bureau

BOSTON — The use of simple screening instruments in the emergency department setting could aid in the recognition of mental health disorders, a study has shown.

And subsequent referral to mental health services of patients who screen positive would likely have a significant public health impact, as many of them might otherwise go undiagnosed and untreated, Edwin Boudreaux, Ph.D., said in a presentation at the annual meeting of the Society for Behavioral Medicine.

In a prospective, multicenter trial, 28% of consecutive adult patients presenting to an urban emergency department during a 3-week period screened positive for depression, and 7% screened positive for bipolar disorder using brief mood disorder screening instruments, reported Dr. Boudreaux of Cooper Hospital and the Robert Wood Johnson Medical School in Camden (N.J.). The results of the brief screens were then measured against those of validated screening tools to assess the utility of the screens.

The cross-sectional study of patients 18 years or older excluded those who were severely ill or who had altered mental status upon presentation to the emergency department. The initial interview of patients meeting study criteria included the Mood Disorder Questionnaire (MDQ) to screen for bipolar disorder and a depression screener comprising the two questions recommended by the U.S. Preventive Health Services Task Force: Over the past few weeks, have you felt down, depressed, or hopeless? Over the past 2 weeks, have you felt little interest or pleasure in doing things?

To test the validity of the results of the initial screen, investigators contacted all of the patients 3-5 days postvisit and rescreened them using the self-report Center for Epidemiologic Studies Depression (CES-D) scale and the Bipolar Spectrum Diagnostic Scale (BSDS).

Of the 243 patients enrolled, 69 screened positive for depression and 18 screened positive for bipolar disorder based on emergency department interviews.

"The depression screener possessed very strong test characteristics," said Dr. Boudreaux, noting that the sensitivity and specificity were 91% and 67%, respectively, and the positive and negative predictive values were 91% and 67%, respectively, when measured against the results from the validated tools.

The MDQ standard scoring yielded many false negatives, with a sensitivity of only 21%. Specificity and positive predictive value were both 100%, and negative predictive value was 78%. However, Dr. Boudreaux noted, "alternate scoring helped address this problem" by increasing the sensitivity of the MDQ results to 50%, while reducing the specificity only slightly to 97%.

The results justify the expansion of research efforts on screening, assessment, and emergency department-based brief interventions for affective disorders, said Dr. Boudreaux.

"The MDQ is unlikely to be adopted into routine clinical care in the ED because of its length [three multi-item questions], but the rapid depression screener only consists of two questions," he said. "I could see such a [tool] being promoted for routine screening, similar to the CAGE alcohol screen."

The four-question CAGE screening instrument "is already routinely used in practice and has gained widespread acceptance across most fields of medicine," Dr. Boudreaux said. "It seems as though a similar trend could occur with the depression screening, especially when one considers that depression is more common than alcoholism."

Dr. Boudreaux and colleagues plan to extend their research by validating the screening instruments against structured clinical interviews. ■

Conduct Disorder Arises From Depression, Not the Other Way Around

BY ROBERT FINN
San Francisco Bureau

SANTA FE, N.M. — A study of children's autonomic responses to reward and negative mood induction suggests that when conduct disorder and depression are comorbid, depression is the primary disorder.

In a poster presentation at the annual meeting of the Society for Psychophysiological Research, Hilary K. Mead, a graduate student working in the Child and Adolescent Adjustment Project at the University of Washington (Seattle), noted that previous studies have suggested that comorbidity rates for the two conditions may be as high as 82%, but that it's unclear whether conduct disorder (CD) arises from depression or whether depression arises from CD.

The National Institutes of Health funded experiment involved 116 children, aged 8-12 years. Eighteen had conduct disorder and/or oppositional defiant disorder, 15 had depression and/or dysthymia, 37 had comorbid depression and conduct disorder, and 46 had no psychiatric condition.

All children had their electrodermal responses (EDR), their respiratory sinus arrhythmia (RSA), and their cardiac preejection period (PEP) measured during three successive experimental conditions: a 5-minute baseline, a monetary incentive task, and negative mood induction via an emotionally evocative film clip.

If CD were the primary disorder, groups with CD alone and with comorbid CD and depression would be expected to have a similar pattern of autonomic responses. If depression were primary, groups with depression alone and comorbid CD and depression would show similar autonomic responses. If neither condition were primary, all three groups of children with psychiatric disorders would be expected to be similar.

As it turned out, children with CD had a pattern of autonomic responses that differed significantly from the other groups. The EDR of children with CD did not change across trials of the reward incentive task, while all other groups showed decreases in EDR. During negative mood induction, children with CD had decreasing PEP and increasing RSA, while the other groups showed no change from baseline.

The investigators concluded that depression is the primary disorder in children with comorbid internalizing and externalizing psychopathologic symptoms. ■