High-fat diet detrimental to asthma patients

Greg Town

Reducing dietary fat intake may be a useful approach for managing asthma.

In a prospective, randomized trial, a high-fat meal increased airway inflammation and reduced bronchodilator response compared with a low-fat meal in patients with asthma.

"We studied the effect of a high fat versus low fat meal in asthmatic subjects," said lead author Dr. Lisa Wood, a research fellow at University of Newcastle School of Biomedical Sciences and Pharmacy in Australia. "Our preliminary results demonstrate that at 4 hours after consumption of the food challenges, subjects who consumed the high-fat meal had an increase in ... airway neutrophils and activation of *TLR4* gene expression... [and] an impaired response to [albuterol]."

Forty-six patients with asthma were randomized to receive either a high-fat, high-caloric meal of burgers and hash browns (60 g, 52 percent fat) or a low-fat, low caloric meal of reduced fat yogurt (3 g, 13 percent fat). Sputum samples were obtained and analyzed for inflammatory markers at baseline and 4 hours after food challenge.

This is the first time that a high-fat meal has been shown to increase airway inflammation. However, further studies are required to confirm whether reducing dietary fat intake is a useful strategy in managing patients with asthma, said Wood.

Research is planned to investigate the mechanism by which foods high in fat may alter the bronchodilator response. "In subjects who had consumed a high-fat meal, the post-[albuterol] improvement in lung function at 3 and 4 hours was suppressed," said Wood. "We are designing studies to investigate this effect. We are also investigating whether drugs that modify fat metabolism could suppress the negative effects of a high-fat meal in the airways."

> **"You don't have to be obese to have poor asthma control. Frequent high-fat [meals] will do**

The mechanisms by which obesity may enhance the clinical expression of asthma-related physiologic changes are yet to be established. "Adipocytes may release pro-inflammatory hormones that could in turn contribute to the reported increase and severity of asthma," suggested Dr. K.C. Ong, a consultant respiratory physician at KC Ong Chest & Medical Clinic, Mount Elizabeth Medical Centre, and President of the Chronic Obstructive Pulmonary Disease (COPD) Association (Singapore).

"Obesity is associated with an increased prevalence of asthma, especially in women, and asthma tends to be more severe and difficult to control with medications in the obese," said Ong. "[However, the results of this study suggest that] you don't have to be obese to have poor asthma control. Frequent high-fat [meals] will do." MT

Frequent high-fat meals can result in poor asthma control.

Overdiagnosis of cancer damaging to patients

Richard Philip

The diagnosis of cancers that are never going to cause problems is detrimental to patients and steps have to be taken to recognize and minimize overdiagnosis, according to a recently published review paper.

Not all cancers will cause symptoms and eventually, death. Some tumors, although pathologically defined as cancers, may be slow-growing or non-progressive cancers that never cause trouble during a patient's lifetime, wrote Dr. H. Gilbert Welch and Dr. William Black of the Department of Veterans Affairs Medical Center, White River Junction, Vermont, US.

The diagnosis of these cancers – described by the authors as "pseudodisease" – can lead to patients receiving cancer treatment they do not need and suffering other harms, such as psychological distress and the risk of complications from needless diagnostic procedures.

"Overdiagnosis – along with the subsequent unneeded treatment with its attendant risks – is arguably the most important harm associated with early cancer detection," the authors wrote.

They added that, unlike patients with a false-positive screening test, whose anxiety is short-lived, the impact of overdiagnosis is life-long and affects a patient's health and even life expectancy.

Researchers estimated the extent of overdiagnosis by looking at data from large randomized trials of screening.

They noted that some 25 percent of breast cancers detected on mammograms, 50 percent of lung cancers detected on chest x-ray and/or sputum cytology and 60 percent of prostate cancers detected using prostate-specific antigen tests could represent overdiagnosis. [*J Natl Cancer Inst* 2010;102:605-13]

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Thirty-year incidence and mortality statistics for thyroid, prostate, kidney and breast cancer and melanoma from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) program also attest to the occurrence of overdiagnosis, the authors wrote.

While new diagnoses for these cancers increased, deaths from the cancers did not and for each of these cancers the increase in screening was temporarily linked to the increase in diagnoses of new cancers.

"The article by Welch and Black should serve as a clarion call to acknowledge the spectrum of cancer behavior and the need to reclassify 'indolent' lesions with a term other than 'cancer' and to improve the specificity of our screening tests," said Dr. Laura Esserman of the University of California, San Francisco, California, US and Dr. Ian Thompson of the University of Texas Health Science Center at San Antonio, Texas, US, in an accompanying editorial. [*J Natl Cancer Inst* 2010; DOI:10.1093/jnci/djq119]

They suggested using a term such as "IDLE tumor," which stands for Indolent Lesions of Epithelial origin, to describe low-risk disease instead of calling such disease "cancer."

Ensuring that patients know that not all cancers can kill and using language that causes less alarm, such as IDLE tumor, is important, the authors added.

Redefining what cancer is, having a clearer idea of what to detect in screening and fine-tuning the thresholds for intervention are some of the things that clinicians can do to tackle overdiagnosis, Esserman and Thompson wrote.

"The challenge for the scientific and medical community is to work alongside our patients to make care more appropriate, more tailored, less resource intensive, and less morbid," they added. MT

Patients may be suffering unnecessary psychological distress as a result of the overdiagnosis of "pseudodisease."