tive tract in patients with cystic fibrosis. We speculate that the distribution of cancers among these patients may reflect regional differences in the tissue expression of the cystic fibrosis transmembrane conductance regulator gene. If so, heterozygotes for the cystic fibrosis mutation may also have an increased risk of digestive tract cancer. Such a model is not inconsistent with the proposed selective advantage for the cystic fibrosis gene, if these hypothetical cancers occur after reproductive age and the protective effect of the gene "promotes" reproduction among the carriers.

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IMAGES IN CLINICAL MEDICINE: CORTICOSTEROID OSTEONECROSIS

To the Editor: Chin and Sarno (Feb. 23 issue)[1] state, "Osteonecrosis can also occur with short-term use of corticosteroids." This statement is inexact and incomplete, and it could be used unfairly by lawyers in malpractice suits.

My colleagues and I have reviewed the international literature for any evidence that short-term treatment (less than 2 weeks) with moderate doses of prednisone (starting at 40 mg per day given orally, with the dose reduced over a period ranging from 6 to 14 days) in adults is associated with osteonecrosis. My experience is that this association is not present in a specific subgroup of patients. My colleagues and I are satisfied that in otherwise healthy people with asthma, chronic sinusitis, nasal polyps, or atopic dermatitis, osteonecrosis of bone is not a complication of prednisone treatment as outlined above.

Short-term treatment with corticosteroids may induce osteonecrosis in patients given very high doses, such as patients with head injuries and cerebral edema or those with multiple bone and joint injuries. Osteonecrosis also appears to be more likely among alcoholics and is certainly more likely in patients with collagen disease, such as systemic lupus erythematosus or rheumatoid arthritis.

It is important that this issue be clarified, because doctors may be unfairly judged and punished in courts of law for using a valuable therapeutic regimen in patients with diseases that are debilitating and potentially serious. A short-term regimen of moderate doses of prednisone is used in children as well as adults, also with no evidence of osteonecrosis when the guidelines outlined above are followed.

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1. Chin CT, Sarno RC. Corticosteroid osteonecrosis. N Engl J Med 1995;332:511.

To the Editor: The knee radiographs by Chin and Sarno showing osteonecrosis are excellent teaching aids. However, the term corticosteroid osteonecrosis indicates an unequivocal relation between corticosteroid therapy and osteonecrosis, which oversimplifies the issue. Osteonecrosis had been described by 1888, over 60 years before the era of corticosteroid therapy.[1] Almost 90 percent of patients with nontraumatic osteonecrosis have not received corticosteroids,[2] and osteonecrosis does not develop in most patients who do receive corticosteroids. The risk of osteonecrosis in patients with pulmonary disease or head injuries who receive high-dose corticosteroid therapy has been calculated to be quite low: 0.03 to 1.2 percent.[3-5]

It is important to set the record straight on this point, because the assumption of absolute causation between corticosteroid use and osteonecrosis places an unjustified onus on all physicians who prescribe corticosteroids.

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MEDICAL ASPECTS OF THE PERSISTENT VEGETATIVE STATE — A CORRECTION

To the Editor: We wish to correct data related to the long-term survival of patients in the persistent vegetative state. In our report,[1] estimates of the long-term survival of such patients were based on data from four published series.[2-5] The number of patients (251) and the cumulative three-year (82 percent) and five-year (95 percent) mortality rates were miscalculated. The correct number of patients is 267, with mortality rates of 70 percent at three years and 84 percent at five years. We do not believe that this error changes the meaning or interpretation of any of the statements in the section on survival or in the report as a whole.

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TRANS FATTY ACIDS IN MARGARINE

To the Editor: In their letter "Trans Fatty Acids in European Margarines" (Feb. 23 issue),[1] Michels and Sacks present a misleading perspective on the science of trans fatty acids and