

waited until the results of drug-resistance testing were available before initiating antiretroviral therapy. We ordered drug-resistance testing for our patient, as recommended by the treatment guidelines.² However, we decided to initiate therapy while awaiting the results for the following reasons. First, we knew that his likely source partner had drug-sensitive virus, which informed our decision to choose an efavirenz-based regimen. Had we not known the drug sensitivity of the source partner, we would have considered a protease inhibitor-based regimen (which has a higher genetic barrier to resistance) while awaiting genotypic results, as recommended by treatment guidelines. Second, we typically receive genotypic results within 2 to 3 weeks. Therapy in this patient was started with the expectation that we would have this information back shortly, allowing us to adjust the regimen rapidly if needed. Third, the patient had severe and ongoing signs and symptoms of meningitis, which we felt that early therapy would ameliorate. Some guidelines suggest routine consideration of acute

HIV treatment in patients with neurologic involvement.³ Finally, a delay in the initiation of therapy might have resulted in the impairment of important CD4+ T cells, which are rapidly depleted within a few weeks after infection.^{4,5}

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1. Kahn JO, Walker BD. Acute human immunodeficiency virus type 1 infection. *N Engl J Med* 1998;339:33-9.
2. Hammer SM, Eron JJ Jr, Reiss P, et al. Antiretroviral treatment of adult HIV infection: 2008 recommendations of the International AIDS Society-USA panel. *JAMA* 2008;300:555-70.
3. Gazzard BG. British HIV Association guidelines for the treatment of HIV-1-infected adults with antiretroviral therapy 2008. *HIV Med* 2008;9:563-608.
4. Brenchley JM, Schacker TW, Ruff LE, et al. CD4+ T cell depletion during all stages of HIV disease occurs predominantly in the gastrointestinal tract. *J Exp Med* 2004;200:749-59.
5. Rosenberg ES, Billingsley JM, Caliendo AM, et al. Vigorous HIV-1-specific CD4+ T cell responses associated with control of viremia. *Science* 1997;278:1447-50.

What Went In When Trans Went Out?

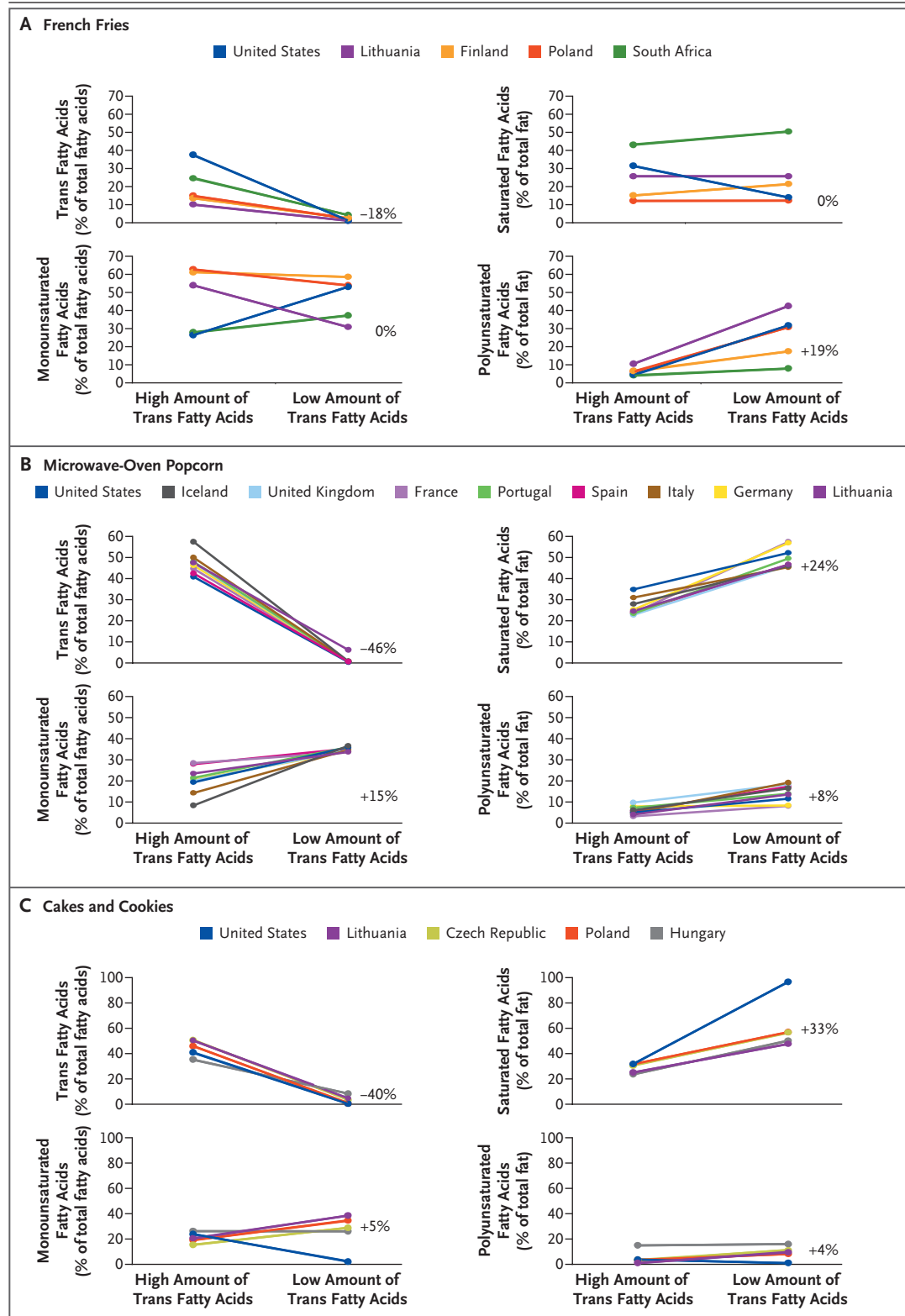
TO THE EDITOR: Industrially produced trans fatty acids in popular foods such as fast foods, cookies, cakes, and snacks¹ are gradually being replaced in the United States and Western Europe by other fatty acids because of societal pressure and legislative regulations.² This movement is driven by increasing scientific evidence of the harmful effects of industrially produced trans fatty acids on health, especially the increased risk of coronary heart disease,³ and by the lack of evidence of any beneficial health effects. The consumption of trans fatty acids is associated gram for gram with a greater risk of coronary heart disease than is the consumption of saturated fatty acids. The risk of trans fatty acids is even more pronounced as compared with that of monounsaturated fatty acids and especially polyunsaturated fatty acids.⁴ Despite the obvious theoretical health benefits of replacing trans fatty acids with other fatty acids in food products, concern has been expressed that this change might increase the intake of saturated fatty acids.⁵ In light of

this concern, we have investigated various popular foods that contain high concentrations of trans fatty acids. We have examined which types of fatty acids are present in these foods as compared with similar foods that contain low concentrations of trans fatty acids.

Nineteen food items containing a high amount of trans fatty acids and 19 similar food items containing a low amount of trans fatty acids were purchased from large supermarkets and fast-food outlets in 14 countries from 2005 through 2008. The fatty acid profiles were analyzed, and similar types of foods bought in the same country were compared.

Figure 1 (facing page). Trans Fatty Acids and Saturated, Monounsaturated, and Polyunsaturated Fatty Acids as Percentages of Total Fatty Acids.

The average increase or decrease in percentage points is shown for foods with a low amount of trans fatty acids as compared with similar foods with a high trans fatty acid content, according to country.



The results are shown in Figure 1. French fries, cookies, cakes, and microwave-oven popcorn with low concentrations of trans fatty acids had higher concentrations of saturated, monounsaturated, and polyunsaturated fatty acids than did corresponding products with a high content of trans fatty acids. In french fries with a low trans fatty acid content, as compared with french fries with a high trans fatty acid content, the average proportion of fatty acids from trans fatty acids decreased by 18 percentage points, the proportions from saturated fatty acids and monounsaturated fatty acids were the same, and the proportion from polyunsaturated fatty acids increased by 19 percentage points. The corresponding comparisons for microwave-oven popcorn were as follows: trans fatty acids, -46 percentage points; saturated fatty acids, +24 percentage points; monounsaturated fatty acids, +15 percentage points; and polyunsaturated fatty acids, +8 percentage points. For cakes and cookies, the corresponding comparisons were trans fatty acids, -40 percentage points; saturated fatty acids, +33 percentage points; monounsaturated fatty acids, +5 percentage points; and polyunsaturated fatty acids, +4 percentage points.

In most countries, popular foods with high levels of trans fatty acids and foods with low

levels are available at similar prices. Our data show that the trans fatty acids in these foods can be replaced with a mixture of saturated, monounsaturated, and polyunsaturated fatty acids. The nutritional benefit of this shift in fatty acid composition for popular foods is even greater than the benefit of a one-to-one substitution of trans fatty acids with saturated fatty acids.

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1. Stender S, Dyerberg J, Astrup A. High levels of industrially produced trans fat in popular fast foods. *N Engl J Med* 2006; 354:1650-2.
2. L'Abbé MR, Stender S, Skeaff M, Ghafoorunissa, Tavella M. Approaches to remove trans fats from the food supply in industrialized and developing countries. *Eur J Clin Nutr* 2009;63:Suppl 2:S50-S67.
3. Mozaffarian D, Katan MB, Ascherio A, Stampfer MJ, Willett WC. Trans fatty acids and cardiovascular disease. *N Engl J Med* 2006;354:1601-13.
4. Mente A, de Koning L, Shannon HS, Anand SS. A systematic review of the evidence supporting a causal link between dietary factors and coronary heart disease. *Arch Intern Med* 2009;169:659-69.
5. Aro A. The scientific basis for trans fatty acid regulations — is it sufficient? A European perspective. *Atheroscler Suppl* 2006;7:67-8.

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