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BMJ USA (ISSN 1531-5177) is published monthly by the BMJ and Jobson Publishing, LLC, 100 Avenue of the Americas, New York, NY 10013-1678. Periodicals postage paid at New York, NY, and additional mailing offices. POSTMASTER: Send address changes to BMJ USA, Jobson Publishing, LLC, 100 Avenue of the Americas, New York, NY 10013-1678. Subscription rates: \$150 per year in the US (\$75 per year for students).

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Editor's choice Pseudodisease

"Is cure possible for those for whom it is necessary, and is cure necessary for those in whom it is possible?" Whitmore once asked this about prostate cancer. Autopsy studies had shown that elderly men who died of other causes often had histologic evidence of prostate cancer, latent disease that was clinically silent while these men were alive. Introduction of a screening test (prostate-specific antigen) in the late 1980s brought an "epidemic" of prostate cancer to the United States in the early 1990s. Now, prostate cancer ranks as the most common non-dermatologic cancer in American men.

How many of these cancers represent "pseudodisease," pathology that poses little or no threat to health? Although about 35 000 Americans die each year from prostate cancer, by some estimates 9 million men harbor the disease.

The detection of pseudodisease is a complication—some would say a necessity—of screening. For example, screening for colorectal cancer markedly lowers mortality from the disease. But because less than 5% of adenomatous polyps are destined to progress to cancer, this benefit requires a large number of patients to undergo the removal of lesions that pose no personal risk.

Pseudodisease also figures in breast cancer screening. The incidence of ductal carcinoma in situ (DCIS) rose dramatically in this country after mammography screening became widespread. DCIS now accounts for 1 out of 5 newly diagnosed breast cancers. Some view this as a harm, some (those who believe DCIS treatment saves lives) see it as a benefit, and others consider it an unavoidable consequence of searching for more lethal breast carcinomas.

In this issue, Swensen describes the pseudodisease that emerges when computed tomography is used to screen for lung cancer (page 186). It detected 56 lung cancers over 4 years at the Mayo Clinic, but also a much larger number of uncalcified chest nodules, 98% of which were benign. He notes that wedge resection carries a 4% mortality rate, raising the prospect of patients' dying on the operating table in the pursuit of pseudodisease.

Another way to create pseudodisease is to change the definition of disease. A study in this issue (page 203) and an accompanying editorial (page 187) suggest the need to expand the definition of hypothyroidism. The authors argue that hypothyroidism can exist despite normal concentrations of thyroid stimulating hormone. Would thyroxine replacement in such patients introduce risks for the treatment of pseudodisease? A reader argues in a Rapid Response that to attribute the symptoms of such patients to hypothyroidism is to overlook their correct diagnosis.

Pseudodisease is the portion of the iceberg below the waterline. Modern medicine is too ignorant to know for sure which of the submerged parts are worth detecting. Doctors of the future will know better, armed with genetic tools and other advances we cannot imagine. Until then, caution is warranted as we probe beneath the water. ♦

—Steven H Woolf, MD, MPH