Letters to the Editor

Critiquing "Dr. McDaniel Responds" Letter

Editor:

People have expressed concern to me about statements in the letter (June, 1996) from H. Reg McDaniel, Director of the Fisher Institute for Medical Research. Although it is headed "Dr. McDaniel Responds," the letter isn't responsive to Kenneth Sancier's questions, and even seems to further blur the "identity" issue that Sancier asked about. The editor describes McDaniel as a consultant for the company that markets "dioscorea." I don't know if that is accurate. Dozens, maybe hundreds, of people have asked me about a chart used in marketing Emprise products that indicates diosgenin is a precursor of DHEA. Although I can't imagine what enzymes might achieve that conversion, no one seems to want to say whether their products contain diosgenin or DHEA or yam tissue. If they contain yam tissue, then they should be discussing the issue of toxicity.

I don't doubt McDaniel's claim that the statements he makes "reflect the consensus of a research pharmacologist, biochemist, molecular biologist, gastroenterologist and gastrointestinal physiologist, as well as physicians who interpret scientific data...." While the editors of *JAMA* make similar claims about the authoritative nature of their publication, I noticed a completely idiotic statement about yams and steroids in that journal, indicating that the yams used by the steroid industry were the same as edible yams. (There are about 600 types of steroid-rich yam; a typical one looks like Bigfoot, weighs as much as 90 pounds, and is poisonous.)

McDaniel's group of specialists were asked to evaluate the set of articles cited in his letter. It would seem that neither McDaniel nor his professionals bothered to read the articles. Although none of McDaniels' sentences stands up to close scrutiny, let me comment on half of one of his sentences: [animals] "...were administered diosgenin and it was converted by the adrenals to pregnenolone and then to estrogen,[2] (3) oral diosgenin reversed experimental diabetes,[3] (4) oral diosgenin lowered blood cholesterol levels,[4] (5) diosgenin has also shown the capacity to induce megakaryocytic differentiation of bone marrow stem cells in tissue culture; a demonstration of hormonal regulatory influence at the cellular level expressed free of other sources of endocrine influence...."[5]

Far from saying that diosgenin is converted by the adrenals to pregnenolone and estrogen, Rao, et al., say it has not been ascertained whether it acts directly or by being metabolized. Their evidence argues against that, by "excluding any possibility of diosgenin having progesterone-like activity in mouse," since any pregnenolone produced would be far more likely to produce progesterone-like effects than estrogenic effects. A. Lipshutz's work made that clear.

Although I am not familiar with dioscoretine, and haven't read the paper by M.M. Iwu, et al., their abstract strongly suggests that it has nothing to do with diosgenin, because their hypoglycemic substance has an LD50 in mice of 0.58 g/kg, and diosgenin isn't likely to be that toxic. The paper by Iwu, et al., wasn't about "reversing diabetes," but only about the observation that dioscoretine lowered blood sugar after four hours in rabbits. Thousands of other seriously toxic substances can cause a sudden decrease in blood sugar.

McDaniel indicates that Malinow, et al., studied the effects of oral diosgenin on cholesterol, but, as their title says, they were examining digitonin, a toxin from a different family of plants. Since McDaniel brought up the subject by citing this digitonin study, I should mention that one of the effects seen by other researchers, with Dioscorea-derived compounds, is chronotropic heart stimulation, suggesting a parallel to digitalis.

Beneytout, et al., describe the HEL cells as a human erythroleukemia cell line, which isn't the same as McDaniel's description of them as "stem cells," and they compare the effect of diosgenin to that of phorbol myristate acetate treatment, and say nothing that could be construed as "a demonstration of hormonal regulatory influence at the cellular level expressed free of other sources of endocrine influence." Phorbol myristate esters are recognized as potent co-carcinogens. Both diosgenin and PMA caused an increase in the number of cells containing 4 or more nuclei. Diosgenin, we might conclude, is as effective as PMA in promoting abnormal development in cancer cells. This would suggest that diosgenin is something to be avoided.

If McDaniels gets paid for mentioning DHEA, pregnenolone, diosgenin, and dioscorea on the same page, he has done his job. But the *Townsend Letter*'s important forum for uncensored dialogue is abused when someone uses it repeatedly for evasive verbiage and misstatement of fact.

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