

The Immune System: Science or Sound Bite?

One of the pitches often used by the purveyors of cancer nostrums is that they work by “boosting the immune system.”¹ The gist of this rose-colored presentation usually rests on a simplistic view that this system is one-dimensional and can be turned on or off by the simple flip of a switch, a switch such as the product being hyped.

To many patients facing advanced cancer such as melanoma, supplementing conventional treatment with complementary or alternative medicine (CAM) is a way to take an active role in managing their disease and to ward off feelings of hopelessness.² Although the need is understandable, with CAM, as with any medical intervention, treatment should only be rendered after fully informed consent has been obtained.

A fine augmentation to this informed consent process might well be Antoni Ribas’ article in this issue, which updates the status of immunotherapy for melanoma. Although undoubtedly beyond a patient’s basic comprehension, the article provides a perspective on what the “immune system” means and how numerous and complex the underlying processes are. As someone new to the terms, a patient would undoubtedly be overwhelmed by just contemplating the number of approaches discussed: cytokines (including IL-2, IL-7, IL-12, IL-18, IL-21, and sargramostim), immunocytokines, whole tumor vaccines, gene-modified cells, cloned tumor antigen-specific T cells, tumor antigen naked DNA vectors, antagonistic (CTLA4, CD152) and activating (CD 40, CD 137) antibodies, heat shock proteins, recombinant virus, dendritic cell vaccines, costimulatory molecule modulation, and Toll-like receptor ligands. But what becomes truly awe-inspiring is the basic science that describes the underlying genetic substrates and the downstream effects of each of these agents. The dazzled reader will never again view the immune system as a one-switch, on-off system that can be easily manipulated by an untested off-the-shelf agent.

This is not to say, however, that science has the definitive answers. As Ribas notes, the results of immunotherapy for the melanoma patient have been far from outstanding. Preparing many of these agents takes thousands of dollars, for perhaps modest results, and predicting which patients will benefit is still an embryonic skill. On a higher level, the present approaches still fragment the system. The active processes needed for uncontrolled growth of the melanocyte must be identified and integrated so that a multi-pronged strategy for control can be devised.

So, for the patient, science can provide a wealth of mind-boggling information about the system but no definite answers. Is this better than the pusher of the home-grown remedy? Well, yes, of course—but another ingredient is needed: patient-physician communication. Patients report that discussion of CAM rarely arises during visits to their oncologist.³ Interestingly, physicians by and large are not opposed to the more benign forms of CAM, and discussion of the pros and cons actually enhances the relationship between patient and doctor. The underlying key becomes education—both professional and lay—so the fruits of our research can be put to their most productive use.



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