Warheads and avoiding Star Wars

In your recent editorial about the 40th anniversary of Nixon's war on cancer (Jacobs, 2011) you correctly argue for continuing the effort and funding to defeat cancer. However, as you point out, despite the voluminous amount of published knowledge, we are still waiting for substantial progress in actual therapy. Maybe we should thus take a moment to reflect on the shortcomings of the previous 40 years, to avoid repeating the same errors and to prevent our efforts from being futile again.

For example, recent progress on the sequencing of cancer genomes (Stratton *et al*, 2009) reinforces the concept that all cancers are genetically individual (Greenman *et al*, 2007). Thus, unless individually defined (multi-)genetic therapy suddenly becomes technically and economically viable, we need to ask how much value there is in simply cataloguing yet more mutations. Surely, this would simply repeat the last 40 years with yet more publications and no progress in actual therapy.

Similarly, the resurrected commercial potential of therapeutic antibodies (Nelson *et al*, 2010) should not make us ignore the hard-learned lessons of cancer immunology: that cell-mediated immunity is more potent

against tumours than is humoral immunity (Palucka *et al*, 2011). This is clearly illustrated by experience with the development of cancer immunotherapy for lymphoma, in which previously limited success using anti-idiotypic monoclonal antibodies has progressed to more promising cell-mediated therapies using T cells and dendritic cells (Houot & Levy, 2009).

A critical look at efforts over the past 40 years, together with the replacement of commercial gain, ego and fashion as the primary drivers of research, should ensure that our renewed efforts are not futile yet again in the war against this devastating disease.

CONFLICT OF INTEREST

The author declares that he has no conflict of interest.

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