

It's a long way to Tipperary

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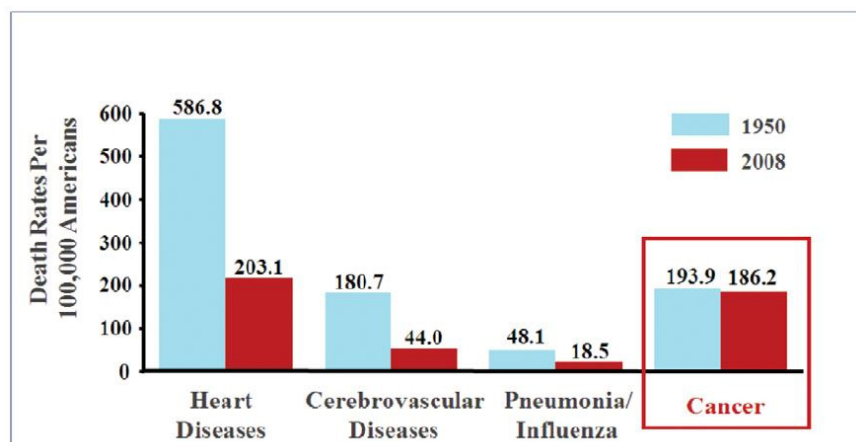
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A recently published article by a widely diffused Italian newspaper (*Il Corriere della Sera*), claims that the “rate of curability of cancer, in the next 10-15 years will be astonishingly increased”. That *exploit* could mainly be attributed (no doubt on that!) to the claims made by new generation molecular drugs designed to single out and then to ‘block’ one or more genes involved in cancer “causation”.

Unfortunately, this ‘candid’ optimism cannot be shared. Firstly, we have been waiting for the “magic bullet” since the eighties, but it has been rather late in coming. Secondly, (incontestable) actual progress achieved (especially for leukemia, breast, prostate and testicular tumors), is mostly attributable to the co-synergy expressed by surgery, chemotherapy, radiotherapy and hormone therapy. The graph, reported underneath, evidences that in oncology (from 1950 and 2008) no significant reduction has been achieved in mortality rate, meanwhile a completely different picture is observed for other diseases. It is highly unlikely that a drug designed to block a single gene can actually “cure” a tumor: Gene alterations found in tumors are

indeed variable, displaying random behavior, that may vary from individual to individual, and within even each tumor. However, in essence, no common genetic mechanism has thus far been revealed. Tumors are diseases that originate at the tissue level (cancer does not arise from a single cell), and involves a complex array of causal factors, which are only partially known, even now. In fact, continuing to concentrate the majority, if not all, efforts on “target-based” drugs will probably lead to the failure of many pharmaceutical companies, as recently happened in Nerviano, formerly Pzifer, in Milan.



Tab. 1. Mortality rates (years 1950-2008) for infectious, heart, cerebrovascular diseases (From American Cancer Society (ACS) 2010 Cancer Facts & Figures; Atlanta, USA, 2008, modified).

