Letter to the – Brief an die Herausgeber


Mistletoe in Oncology: Fact or Fiction?
The promotion strategy for a medical product includes to feature allegedly favorable properties in company-sponsored meetings. To enlarge the distribution of advertising, publication of the contributions in a respected journal is an obvious aim. Since the collection of purposefully selected topics of such a symposium has been published in Special Issue 1, 1995, of this journal without a review process, the conspicuously positive attitude of the article about a proprietary mistletoe extract [1] deserves briefly summarized comments from our point of view.

The authors, fervent proponents of one brand of mistletoe extract, claim ‘obvious successes of mistletoe therapy’ [1, p. 37]. This opinion is in clear contrast to the conclusions of critical evaluations of the relevant literature which indubitably rank this modality with the area of unconventional medicine without proven efficiency [2, 3]. Among others, a repeatedly expressed complaint concerned the often scientifically inadequate relation between the quality of study design and the derived conclusions [2, 3]. Therefore, the general, uncontrolled use of mistletoe extracts does not appear to be warranted [2, 3]. The stringent demand for unequivocal positive evidence prior to approval by the medical community should not be misinterpreted as an instrument to suppress pluralism of methods. Conversely, it testifies the serious interest of an evaluation sine ira et studio, a practicable and ethically essential procedure as the only basis for responsible recommendations. Exclusively this attitude should guide the currently ongoing work on the elucidation of the properties of the galactoside-binding lectin from mistletoe extract. This plant protein displays immuno-modulatory activity in a small range of doses, enabling to eventually consider the design of rigorously controlled clinical trials [4, 5]. It is indispensable to refrain from neglect of the often disillusioning therapeutic experience with bacterial immuno-modulators, prohibiting any anticipation of favorable clinical results on the basis of study of in vitro and animal models. In this context it is also instructive to mention that our data on lectin-dependent biosignalling have been misquoted in [1], where lectin-dependent elevation of phosphorylation of a 28-kDa protein is attributed to ‘T-lymphocyte receptor’. Presently, ambiguities in microsequencing outputs preclude to precisely decide whether e.g. a heat shock protein or the initiation factor 4E is/are target(s) for enhanced phosphorylation at 28 kDa after exposure of monocytic leukemia cells (THP-1) to the lectin [6]. Remarkably, this mistake and also large passages of the text of [1] have already been published by the authors in other journals [7, 8].

Lectin-dependent enhancement of some immune parameters such as cytokine secretion is not necessarily beneficial for the individual patient, but may even cause promotion of growth for certain tumor types [4, 5]. Since this possibility has not been excluded convincingly up to now, immunomodulation by the lectin in extracts or as purified compound should be assigned to strictly controlled trials only. These arguments oppose the view of the authors that use of presumed standardized mistletoe extracts is the ‘method of choice for a scientifically
acceptable immunotherapy’ [7]. However, our mistletoe-related reasoning reinforces the general judgement of other popular unconventional methods in oncology [9]. There is no reason why the burden of proof for clinical efficiency and lack of harmful side effects should be less in this area than for any drug in mainstream medicine. This self-evident fact in line with the indisputable ‘primum non nocere’ must not be compromised by any attempt to promote unproven, commercially profitable treatment modalities [10], an example being given by [1]. Such strategic efforts have recently been elegantly reviewed by Windeler [11] as a guideline to emphasize that there is no substitute for scientific argumentation to reach the aim of a treatment for the individual cancer patient that is optimal in all respects.

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References


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