New Era of Personalized Medicine: A 10-Year Anniversary

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Key Words. Personalized medicine • Stratified medicine • Oncology • Pharmacodiagnostics

Disclosure: Jan Trøst Jørgensen: Employment/leadership position: CMC Contrast, an image diagnostic company.

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Ten years ago, on April 16, 1999, an article by Robert Langreth and Michael Waldholz entitled “New Era of Personalized Medicine—Targeting Drugs for Each Unique Genetic Profile” appeared in The Wall Street Journal. That article described the formation of the single nucleotide polymorphism (SNP) Consortium, an initiative that was set up in 1999 by 10 major pharmaceutical companies, the Wellcome Trust, and five academic research centers with the aim of drawing up a comprehensive SNP map of the human genome. The hope with regard to the development of drugs specifically designed to target the individual patient’s genetic profile was also commended in the article. Some few months after the article had been printed in The Wall Street Journal, it reappeared in The Oncologist [1].

To be at the beginning of something new always makes it difficult to judge its importance. Sometimes expectations are far greater than realities, and to some extent this has also been the case with the article in The Wall Street Journal. Despite this, The Oncologist had the vision and courage to print the article, which should be broadly recognized today, especially because of the fact that this was the first article ever published that used the term personalized medicine in the way this is perceived today. Now, 10 years down the road, we know that it was a new era that started, and we have already seen the first important results, even though the promise of “targeting drugs for each unique genetic profile” is far from being fulfilled yet.
The interest in personalized medicine has increased considerably since 1999, which is also reflected in the number of articles published about the subject. Based on a PubMed search in March 2009 using the search term “personalized medicine,” the total number of articles fulfilling this criterion was 615. If these articles are divided into the individual years from 1999 to 2008, we see that three articles were published in 1999, and among these is the one from *The Oncologist*, and in 2008 this number had increased to approximately 180 (Fig. 1).

This increased interest in personalized medicine may be explained by several factors. First, development within molecular medicine, especially new molecular diagnostic methods, has been of great importance, and second, it reflects a real medical need. The response to drug therapy varies considerably among cancer patients, and we are seldom able to explain why a given drug does not work in a given individual [2]. Yet in 2009, there is still a great medical need that is unmet, in spite of the important improvements in the efficacy and safety of oncology drugs we have seen over the past 10 years. To some extent, these improvements originate from the introduction of new targeted drugs used in conjunction with pharmacodiagnostic testing aimed at more individualized therapy. A disease for which this approach has been most noticeable is breast cancer, where considerable progress has been made within the last decade [3]. In the years to come, we will see the principals of stratified and personalized medicine being extended to areas other than breast cancer to the benefit of the individual cancer patient.

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Jan Trøst Jørgensen
Oncologist 2009;14:557-558
DOI: 10.1634/theoncologist.2009-0047

This information is current as of October 26, 2010

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