

ABSTRACT

Tumorous diseases are as old as life itself. They pose a serious social problem and everybody has encountered them at some time. Due to the polluted environment and modern way of living, tumorous diseases are becoming increasingly responsible for human deaths. Tumorous diseases can appear in any multicellular organism in some form. Traces of them have been identified in prehistoric people as well as in Egyptian mummies. The widespread word CANCER has its origin in ancient Greece.

The first reports of laboratory evidence of tumorous diseases were published in scientific publications as early as the mid-19th century. This was the time of the onset of clinical biochemistry as a branch of science and medicine. Laboratory techniques did not exist then and testing was based on simple physico-chemical reactions. It was only in the second half of the 20th century that the study and examination of tumour markers enjoyed rapid development. Currently, the most common tumour can be determined by nearly any biochemical laboratory.

The subject of my paper, "Tumour markers" is very broad – actually, each chapter would deserve to be an independent subject – and still, my thesis is far from a detailed analysis of each individual marker and methods of its determination. I aimed at providing a brief overview of the most frequent tumorous diseases and the related tumour markers. The Experimental part describes and discusses examinations of tumour markers performed by the laboratory of AXIS–CZ in Hradec Králové where I have been working.

My thesis has 106 pages in total. When developing it, I used scientific monographs and papers (see References), Laboratory Handbook and Standard Operating Procedures applied by the laboratory of AXIS-CZ Hradec Králové. I divided the thesis systematically into 6 chapters, attempting to provide a comprehensive picture of the subject. Chapters 1 and 2 describe the most frequent tumorous diseases. Chapter 3 describes the nature and properties of frequently used tumour markers. Chapter 4 describes methods for the determination of the markers, and Chapter 5, which is the Experimental part of the thesis, discusses routine determinations of markers on an IMMULITE analyzer by the chemiluminescence method as practised by the laboratory of AXIS-CZ Hradec Králové. Chapter 6 is a summary of the results of my work.