

Introduction

In June 2016, 35 years have passed since the American Centers for Disease Control (CDC) detected and described the first cases of an unknown disease, which was later referred to as an infection with the human immunodeficiency virus (HIV) – an illness leading to acquired immunodeficiency syndrome (AIDS).

The first CDC report presented cases of rare pneumonia and cancer in several otherwise healthy young homosexual men. The disease progressed rapidly ending with death. A massive increase in the number of new infections was observed along with the new cases among other socio-demographic groups. Yet, a wrong and harmful stereotype has commenced to be formed that HIV infection exclusively affects the so-called high-risk groups or, in other words, homosexual men, prostitutes and drug addicts.

Relatively shortly after the discovery, the mechanisms of acquired immunodeficiency were elucidated, the syndrome was characterized, etiology of AIDS was proposed and routes of spreading the disease were described. However, it took a few years for the researchers to isolate HIV and to develop tests detecting the infection. Subsequent research, which focused on examining the structure and function of the virus, enabled them to understand how it enters, colonizes and reproduces itself in the organism. Furthermore, the gained knowledge provided the basis for the development of the first methods of treatment for people infected with HIV.

HIV epidemic has already affected millions of people around the world. Due to the scale of the threat (a high rate of spreading, severe course of illness despite treatment, comorbid medical conditions and related social problems, the necessity of education and prevention methods, high cost of treatment), the HIV epidemic is the challenge for the governments and societies. The issue of HIV infection has become the subject of interdisciplinary research that combines multiple scientific perspectives (including medical, psychological and social).

Still, there is no treatment that would be able to completely eliminate HIV from the human body. However, the introduction of highly active antiretroviral therapy (HAART) in 1996 radically changed the presentation of the infection. Significant developments have been made in the methods reducing viral load greatly improving the immune function of the body, prolonging the lives of HIV-infected individuals and reducing the mortality rate caused by comorbid conditions. Due to HAART, the number of older adults living with HIV is constantly growing, while the life expectancy reaches the average observed in the general population (Firląg-Burkacka, Siwak, Gizińska, Świącicki, Cielniak, Horban, 2009; Gendelman, Grant, Everall, Fox, Gelbard et al., 2011).

Unfortunately, despite the progress in treatment and health care, HIV still poses a threat to the lives and health of the infected population, with the medical, psychological and social problems related to the infection rather evolving than diminishing (Smit, Brinkman, Geerlings, Smit, Thyagarajan et al., 2015). This book is devoted to the current problems in HIV infection which still pose a major challenge for the specialists across a variety of scientific fields.

The publication was prepared as a part of the scientific efforts within the Narodowe Centrum Nauki (NCN, National Science Centre) research project entitled: “The role of aging in cognitive and chemosensory functions of the brain in HIV infection” (this work was a part of the NCN research project (No. UMO-2012/06/M/HS6/00316 HARMONIA-3). The project was yet another outcome of our long-term scientific collaboration focused on examining the neuropsychological consequences of HIV infection (see: Łojek, Bornstein, 2005).

The contributors to this book are numerous physicians of various specializations, psychologists, as well as engineers who employ neuroimaging methods in clinical research. Due to the engagement in the abovementioned NCN research project, many chapters were prepared at the Faculty of Psychology, University of Warsaw; the Infectious Diseases Hospital in Warsaw; and the Institute of Physiology and Pathology of Hearing in Kajetany. The book does not cover the full spectrum of important topics which should be discussed in relation to HIV infection and AIDS. The chapters focus on the main subject of the abovementioned research project and are dictated by the specializations of the particular Authors.

There are four parts in this book. Part I introduces the discussion on the current problems related to HIV infection. Here, the Authors examine changes in the portrait of the epidemic as well as in the course of HIV infection, which result from the modernization of antiretroviral treatment. Part II is devoted to the neurological diagnosis and research on the central nervous system in the HIV-infected population. The phrase “current challenges” in the title of this part refers to the issue of determining the specificity of the clinical symptoms in aging patients with HIV, and the problem of characterizing the complex relationships between the brain and behaviour in HIV infection with the use of current neuroimaging methods. Part III concerns the mental functioning of people living with HIV as well as comorbid medical, psychological and social conditions. These issues include emotional, cognitive and social problems faced by HIV-infected

individuals, and the protective factors, which allow them to maintain balance and mental health. Here, in addition to the literature review articles, there are also reports presenting original empirical research on HIV-infection and HIV / HCV co-infection. In the last part of this book entitled “Selected Problems”, the chapters focus on the chemosensory and hearing problems in HIV-infected individuals, and metabolic diseases that in part result from the aging process in the given population.

We hope that this book will gain interest among specialists from various scientific fields that are directly or indirectly related to HIV infection, as well as to all the people who are concerned with HIV. We hope that by sharing the latest scientific knowledge about this infection with a wide range of potential recipients, we will contribute to the further increase in the expectancy of life and improvement in its quality in individuals living with HIV infection.

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References

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