Report

1st Baltic Cardio-Oncology Meeting

Ewa Lewicka[1], Marcin Kuźma

[1] Department of Cardiology and Electrotherapy, Medical University of Gdansk, Gdansk, Poland

The interest in cardiooncology is increasing in Poland, because of the rising number of cardiovascular problems associated with anticancer treatment. Cardiac complications are currently the second cause of morbidity and mortality in patients who had undergone anticancer therapy. That's why oncologists must closely cooperate with cardiologists to ensure an optimal cardiac prevention plan. The rapid development in cardiology and oncology makes it necessary to establish channels of fast-track exchange of knowledge and experience between them. For this specific purpose, on 24 November 2018, a conference entitled the "1st Baltic Cardio-Oncology Meeting" was organized at the Gdynia by the: (1) Cardiology and Heart Electrotherapy Clinic and (2) Oncology and Radiotherapy Clinic and Hematology and Transplantology Clinic of the Medical University of Gdańsk. Nearly 100 cardiologists and oncologists attended the conference, having arrived there mainly from northern Poland, but there were also lots of participants from other regions of Poland. Increasing interest is expressed in the interdisciplinary approach to the treatment of patients with cancer. One of the effects of the growing interest is the newly-founded Cardiooncology Clinic (headed by Prof. Ewa Lewicka) at the University Clinical Center.

The conference was opened by the organizers, Professor Ewa Lewicka, MD, PhD, and Elżbieta Senkus-Konefka, MD, PhD, who briefly presented the latest key issues on the border of cardiology and oncology. Both speakers emphasized the fact that progress in oncology causes an accumulation of cardiooncological problems both due to the cardiotoxic impact of new therapies as well as due to the increasing patient survival time, which results in a higher risk of long-term effects of more effective anti-cancer treatments. They both referred to their own experience related to the work of the Gdańsk clinic.

Correspondence:
Marcin Kuźma
02-207 Warsaw, Kukiełki 3A
e-mail: marcin.kuzma@mededu.pl

Received:
21.12.2018
Accepted:
2.01.2019

DOI: 10.24292/01.OR.211218

I SESSION: CARDIAC COMPLICATIONS OF CANCER TREATMENT

The first session was moderated by Professor Ewa Lewicka, Elżbieta Senkus-Konefka, MD, PhD, and Sebastian Szmit, MD, PhD. Professor Lewicka discussed the previously presented problems in the context of the current guidelines. She reviewed the ESC/PTK guidelines, and compared them to other recommendations on cardiotoxicity, and results of the latest research. She spoke at length about the methods for quick detection of cardiotoxicity, and noted the growing role of longitudinal heart strain (GLS) in echocardiography. The method allows to detect changes in the heart even before the decrease in left ventricular ejection fraction (LVEF), and to implement actions preventing development of heart failure. The role of cardiovascular assessment after the end of antitumor treatment – that was the second important issue raised by Professor Lewicka. She stressed that complications of this type may occur even a very long time after the treatment (over 10 years), and that we should expect to see more and more patients treated at cardiology outpatient clinics, who have undergone cancer treatment at a very young age, and with regimens considered extremely cardiotoxic. Disorders occurring in those patients may be multifactorial, resulting both from antineoplastic treatment, and from the natural processes of aging of the human body, which may complicate the treatment, especially when the doctor currently in charge of the patient has no knowledge on the subject of cancer therapy and its impact. Professor Lewicka also drew attention to the negative impact of the pre-existing cardiovascular risk factors (such as hypertension or smoking) on the risk of cardiotoxicity. The last discussed topic was antithrombotic treatment and the possibilities of using novel oral anticoagulants (NOAC) in patients with neoplastic diseases. The problem remains unresolved because of the lack of results of randomized clinical trials with NOAC in oncology so far. At the end, the speaker emphasized the role of cooperation between oncologists and cardiologists, and the need for the latter to actively engage in cardioprotective activities as well as follow-up examinations.

In the next lecture, Krzysztof Konopa, MD, PhD, discussed the problems during the radiotherapy of breast cancer and lung cancer. The main cardiovascular risk associated with such treatment stems from the inability of the therapeutic beam to focus only on the cancer cells. For that reason, the beam impacts on healthy chest structures, cardiac ones, including the myocardium. The speaker stressed that even the contemporary most precise irradiation techniques cannot reduce the risk to zero. The maximal obtained reduction is of several percentage points. Such, it may seem, a small reduction can bring significant benefits on a population scale – in 2017, the number of people irradiated amounted to 90,000. However, an accurate assessment of the benefits remains difficult, because it is impossible to determine the impact of the radiation dose on overall survival, a higher dose may increase the risk of cardiovascular deaths, and there are also technological differences in the methods of radiotherapy. Radiotherapy offers good results in breast cancer – the location of the tumor and its structure enables the use of cardioprotective safer doses. The results in breast cancer are also improved by special irradiation techniques (e.g., in the Deep Inspiration Breath Hold) that reduce the exposed area of the heart. The characteristics and different tumor locations in lung cancer results in radiotherapy exerting a significant impact on the myocardium. In addition, lung cancer is largely caused by cigarette smoking, and occurs in people who have additional cardiovascular risk factors, which aggravates cardiotoxicity. This leads to significant differences in the length of overall survival between patients with breast cancer and patients with lung cancer. In the discussion after the lectures, participants drew attention to the problems associated with the lack of standardization of some activities, and noted that a simple preventive action (e.g. quitting smoking) reduced the risk of cardiotoxicity to a very large extent.

The other two lectures introduced the international context into the discussion. Sebastian Szmit, MD, PhD, presented the methods used in US cancer and cardiooncological centers, and the latest research results that had been presented at this year's Global Cardio-Oncology Summit. He mentioned the results of studies on anticoagulant treatment in cancer patients. The results showed a slight advantage of edoxaban and rivaroxaban over traditional treatment, but at the cost of a greater risk of bleeding. The future of NOACs in oncology will depend on a thorough analysis of bleeding risk factors, especially in people with GI tumors. The second factor that may increase the risk of bleeding is the drug interaction between the oral anticoagulant and the anticancer drug. These conclusions are part of a widespread phenomenon of distinguishing smaller populations with specific cardiovascular risk factors, and adjusting treatment accordingly. In addition, it has been noticed that patients with breast cancer BRCA+ have a poorer oncological prognosis and also a higher risk of cardiovascular diseases. Nevertheless, the presented study results did not provide an unambiguous answer to the question about an optimal pharmacological method. Studies on primary prevention have not proven the efficacy of carvedilol, studies on bisoprolol have only proven its effect on improving the ejection fraction without affecting the left ventricular remodelling. It turned out that lifestyle changes can have an important role in improving patient results – quitting smoking and normalizing blood pressure is especially important. In addition, it has been shown that physical activity also improves prognosis, and has

a beneficial effect on the quality of life. Therefore, it seems important to implement properly planned physical activity in oncological therapy. It is worth noting here that cardiac prophylaxis is closely linked with oncological prophylaxis. Many lectures at this year's Global Cardio-Oncology Summit were devoted to imaging studies and indicators. Based on the recent experience, it was suggested to use GLS to predict iatrogenic heart failure. Studies on cardiac troponins may also be important. Elevation of cardiac troponin after anticancer treatment can predict adverse events in the myocardium, and indicate the need for the use of enalapril. That last issue became the occasion for discussion after the lecture. Elżbieta Senkus-Konefka, MD, PhD, wondered about the optimal moment to measure the troponin level. From the point of view of an oncologist, it seems that the measurement should be performed before the beginning of the cycle to detect the most important prognostic disorders. Professor Lewicka noted that from the point of view of the cardiologist involved, the test should be carried out 2–4 days after the dose of chemotherapy, because troponin concentration normalizes after a certain time, and at the next cycle it may not exceed the normal range, despite the damage sustained. But for logistic reasons measurement is difficult at that time.

II SESSION: WHAT SHOULD AN ONCOLOGIST KNOW ABOUT CARDIOLOGY, AND WHAT SHOULD A CARDIOLOGIST KNOW ON ONCOLOGY?

The aim of the second session of the 1st Baltic Cardio-Oncology Meeting was the exchange of experience and knowledge among oncologists, hematologists and cardiologists. The session was moderated by Alicja Dąbrowska-Kugacka, MD, PhD, and Professor Jan Maciej Zaucha, MD, PhD. In the first lecture, Doctor Dąbrowska-Kugacka discussed the role of echocardiography in oncological patients. She paid particular attention to the role of echocardiography in the youngest patients after cancer therapy, who are particularly exposed to adverse consequences of the treatment due to their still growing heart, and a long life ahead of them. The role of GLS measurements was highlighted in the presentation, as they may be the earliest predictors of cardiotoxicity. The presentation was illustrated with numerous examples.

The next lecture concerned the use of radiotherapy and magnetic resonance in patients with pacemakers or cardiac defibrillators. Doctor Anna Maria Kaleta explained the mechanisms of damage in these devices, and showed the effects of damage on the patient. Studies indicate a relatively low risk for the patients, however, due to very serious consequences, adequate damage prevention must be undertaken. That's why it is necessary to stratify the risk individually, and to establish a procedure that matches the level of risk. The speaker extensively discussed the methods that oncologists should be familiar with.

The part in which cardiologists shared their knowledge with oncologists was followed by the part in which oncologists shared their knowledge with the cardiologists present. The first lecture was given by Renata Zaucha, MD, PhD. The speaker presented common topics for cardiology and oncology, such as the impact of cardiovascular and oncological risk factors, and pathomechanisms common for both diseases, e.g. the role of reactive oxygen species. Then she discussed the cardiotoxicity of various anticancer treatments, and methods of its reduction, such as the metronomic administration of cytostatics. She devoted a lot of time to discuss the impact of new cancer therapies on the cardiovascular system.

The next lecture was delivered by Professor Jan Maciej Zaucha. He presented a handful of information on the mechanism of targeted hematology drugs and their effectiveness. Study results showed that they are relatively safe for the cardiovascular system, although ibrutinib was found to increase the risk of atrial fibrillation. Bortezomib was demonstrated to cause changes in the myocardium in patients with cardiac risk, but in patients unburdened with the risk, the drug was relatively safe. Imatinib may also affect the cardiovascular system, although this is very rare.

The last lecture was devoted to targeted oncological drugs. It was presented by Professor Rafał Dziadziuszko. Targeted oncological drugs are very effective, but they can be used in selected groups of patients with specific genetic mutations. Professor noted that EGFR inhibitors cause QTc prolongation, and ALK inhibitors may cause sinus bradycardia.

All participants admitted that the Ist Baltic Cardio-Oncological Meeting was very successful, because of an excellent organization of the event (for which we extend our warm thanks to the organizers) and an excellent preparation of the lecturers. The high quality of lectures and interesting discussions, both in the conference room and behind the scenes, clearly show that cardiologists and oncologists recognize the need to exchange their knowledge in order to be able to conduct a more effective therapy. The goal set by the organizers was to bring the important subjects in the field of cardiooncology closer to the participants, and to strengthen the dialogue between cardiologists and oncologists. It has certainly been achieved. We look forward to further meetings.