

### **Cardiovascular involvement in children with oncologic pathology and in bone marrow transplanted patients**

*Doros G. , Popoiu A., But A., Gafencu M.*

*University of Medicine and Pharmacy „Victor Babes”, IIIrd Pediatric Clinic, Timisoara, Romania*

**Aim:** To determine the type of cardiovascular involvement in patients with cancer and in bone marrow transplanted patients, treated in our clinic between 2010-2013.

**Methods:** A number of 268 patients were diagnosed with different types of cancer, as: acute lymphoblastic leukemia, Hodgkin lymphoma, myeloblastic acute leukemia, nonHodgkin malignant lymphoma. All this patients performed: clinical examination, ECG, cardiopulmonary X ray, echocardiography. The investigations were done post radiotherapy, post corticotherapy and after anthracycline treatment. Regarding bone marrow transplanted patients, from 161 cases, 125 were autologous and 36 were allogeneic. The cardiovascular examination was before, at the moment and after transplant.

**Results:** From the total number of patients with cancer, 13(4.8%) presented pericardial fluid at diagnose. Post radiotherapy, 15(5.59%) patients presented pericardial fluid, from which two developed cardiac tamponade. Post corticotherapy, 86(32%) patients developed hypertension and were treated. Regarding the anthracycline group of patient, 18(6.7%) developed tachycardia and no other cardiac involvement, because the patients were treated after protocols that counted the total amount of anthracycline, to prevent overdose. Carvedilol and coenzyme Q10 were used for cardio protection. Post bone marrow transplant, 36(22.3%) patients presented cardiovascular involvement, like: toxic cardiomyopathy 4(11.1%) cases, pericarditis in 4(11.1%) patients, pericardial tamponade 1(2.77%) case, atrial fibrillation 2(5.5%) cases, hypertension 11(30.5%) cases, venous thrombosis 6(16.6%) cases and veno-occlusive disease in 8(22.2%) cases. Radiotherapy and chemotherapy induced pericarditis and tamponade. Tachycardia was the first sign post rapid injection of stem cells. Myocardial reaction was transient post chemotherapy. Central venous catheter and infection were the trigger for atrial fibrillation. After anthracycline therapy, patients were monitored almost 1 year, to prevent dilated cardiomyopathy or heart failure.

**Conclusions:** Cardiovascular involvement in oncologic pathology of children is secondary to radiotherapy, corticotherapy, anthracycline therapy and autolog or allogeneic bone marrow transplantation. Pericarditis was secondary to unprotected radiotherapy. Anthracycline treatment did not severely affect the heart, because of protocol counted dosage. Hypertension regressed at the end of the corticotherapy. The cardiovascular involvement in transplanted patients was secondary to the treatment administrated previous the transplant. Stem cell transplantation did not severely affect the children. The cardiology examination is very important in oncologic pediatric patients.