

## **2. The risk of developing a radiation-induced cancer of coronary CT angiography in Slovakia**

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The coronary CT angiography (CCTA) provides high-quality 3D images of the heart and coronary vessels that are important for diagnosis. The CCTA has an irreplaceable position among diagnostic methods of heart diseases. It provides a more comprehensive diagnosis of heart and coronary vessels than coronary angiography. The main disadvantages of CCTA is using of ionizing radiation that is associated with radiation-induced secondary cancer risk. The growing prevalence of heart diseases and number of CCTA examinations are causing an increase in radiation exposure of patients. This is also associated with an increase in the potential radiation-induced secondary cancer risk. Primary objective of our study is to determine and to analyze the lifetime additive radiation risk of cancer by CCTA examination. The second objective of this study is to determine the organ doses and calculate the radiation load of patients undergoing CCTA. The estimation of cancer risks as a result of radiological imaging is one of the most recent trends in radiation protection in the world.