

## MP4-6

### **Radiation doses from paediatric interventional cardiology in France: a multicentre study**

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**Objectives.** Children with congenital heart disease frequently undergo interventional cardiology procedures (ICP) for diagnostic or therapeutic purposes. Despite the clear clinical benefit to the patient, the complexity of these procedures may result in high cumulative radiation exposure. This issue is particularly relevant for children given their greater sensitivity to radiation and the longer life span during which radiation health effects can occur. In France, an epidemiological cohort study, named Coccinelle (French acronym for « Ladybird »), specifically designed to provide further knowledge on the potential cancer risk associated with paediatric ICP is currently carried out. In the framework of this study, some comprehensive information has been obtained on typical levels of radiation doses for ICP in France.

**Methods.** In this analysis, all children who have undergone at least one ICP before age 16 and over the period 2009-2013 are included from five major French paediatric cardiology hospitals. For each ICP, air-kerma area product (PKA) and fluoroscopy time (FT) are retrieved retrospectively when available. The median, first and third quartiles, minimum and maximum values of PKA and FT are calculated.

**Results.** Over 4,000 ICP have been analysed. The main ICP categories investigated were: Diagnostic, Patent Ductus Arteriosus (PDA) closure, Atrial Septal Defects (ASD) closure, Valvuloplasty and Angioplasty. Results will be presented for each ICP category, according to patients' age and weight. They will be discussed in light of available literature and published data.

**Conclusion.** The justification as well as the benefit–risk ratio of ICP is well established. However, the increasing use of ICP in paediatric population stresses the need of setting up reference levels and keeping doses to children as low as possible.