

interview. For the exposed group, a specific section of the questionnaire is focused on the occupational history, the description of the procedures (type, frequency, radiation protection tool) and will be used for the classification into "comparable exposure level" groups according to estimates of cumulative dose. For all participants, eye examinations will be performed to specifically detect cataracts, even in their early stages (lens opacities, LOCS according to the international standard classification). The analysis will provide an estimation of the risk of cataract in interventional cardiology relative to not-exposed reference group, taking into account other risk factors. An analysis comparing the risks according to the level of exposure is also planned.

This epidemiological study will provide further knowledge on the potential risk of occupational radiation-induced cataracts in cardiology and will contribute to the awareness of cardiologists in radiation protection.

January 16th, Saturday 2010

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N-3 Polyunsaturated fatty acids alter expression of fibrotic and hypertrophic genes in a dog model of atrial cardiomyopathy

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Omega-3 polyunsaturated fatty acids (PUFAs) may reduce vulnerability to atrial fibrillation (AF). The mechanism underlying this effect is unknown. A genome wide approach was used to identify gene expression profiles involved in a new model of vulnerability to AF, and determine whether they were altered by PUFA therapy. Thirty-six dogs were randomized into 3 groups of 12. Two groups were paced using simultaneous atrial and ventricular pacing (SAVP) at 220 bpm for 14 days to induce atrial enlargement, fibrosis and susceptibility to AF. One group was supplemented with oral PUFAs (850 mg/day) for 21 days, commencing 7 days before the start of pacing (SAVP-PUFAs); the other received no PUFAs (SAVP-No PUFAs). The final group was unpaced, unsupplemented and served as controls (CTRL). Atrial tissue from left appendages was sampled at the end of the protocol. PUFA supplementation caused a 24% increase in tissue phospholipid PUFA concentration. Gene expression was analyzed via microarray. Results were confirmed with QT-RT-PCR and histology. SAVP-No PUFAs dogs had significantly increased mRNA levels of MHC α , elevated levels of other prerenal remodeling genes Akt, EGF, TIMP1, JAM3 and CD99, and significantly decreased levels of fibrosis inhibiting Smad6. PUFA supplementation was associated with significant down-regulation of Akt, EGF, TIMP1, MHC α , CD99 and lower JAM3 levels. PUFAs reversed the 34% increase in myocyte cross sectional area caused by pacing. PUFAs appear to attenuate, at the genetic level, adverse remodeling in response to mechanical stress.

