Conclusion: Our results suggest a lack of sympatho-vagal balance activation in the first 5 min of tilt test in subjects with vasovagal syncope. CI and VD syncope groups show a lower decrease of HF indices in the Early5. Moreover, CI group shows a lower increase of LF indices. A perspective of this work is the set of cut-off values from data recorded over the first 5 min of tilt test to estimate the risk and the type of vasovagal reaction, based on a bigger population.

Figure (abstract 235) – LFnu and HFnu variations (%) in NEG and CI

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Effects and mechanisms of n-3 polyunsaturated fatty acids in the fetal pulmonary circulation
Ali Houeijeh (1), Ali Houeijeh (1), Helene Coridon (2), Karine Montaigne (2), Estelle Asbry (2), Rony Sfeir (2), Philippe Deruelle (2), Francois Godart (1), Laurent Storme (2)

(1) Hôpital cardiologique CHRU Lille, cardiologie infantile, Lille, France – (2) Hôpital cardioangiologique, CHRU Lille, cardiologie infantile, Lille, France

The effect of n-3 polyunsaturated fatty acids in the pulmonary circulation is not well defined. This question is clinically relevant in respiratory failure associated with pulmonary hypertension. To investigate this effect we have realised a randomized, placebo-controlled comparative study on sixty-two chronically prepared lamb fetuses.

Methods: Catheters and ultrasonic flow transducer were placed through a left thoracotomy in the lamb fetus to determine aortic, pulmonary, and left atrial pressures and left pulmonary artery blood flow. We compared the pulmonary vascular responses to 200 min of Omegaven (lipid emulsions enriched in n-3 polyunsaturated fatty acids) or Intralipide (lipid emulsions enriched in n-6 polyunsaturated fatty acids) infusion. Then we investigated the effects of Omegaven on the pulmonary circulation after nitric oxide synthase inhibition by L-nitro-arginine, potassium channel blockade by tetraethylammonium, cyclo-oxigenase inhibition by Ibuprofen.

Results: Pulmonary artery and aortic pressures as well as blood gases and plasma lactate concentrations did not change during either fat emulsion infusion. Left pulmonary blood flow increased by 30% and pulmonary vascular resistance decreased by 29% during Omegaven infusion, whereas they did not change during Intralipide infusion. This pulmonary vascular response to Omegaven was not altered by L-nitro-arginine or Ibuprofen infusion. At the opposite, Omegaven induced pulmonary vasodilatation was abolished by tetraethylammonium and markedly attenuated by (methylsulfonyl)-2- (2-propynyl)-benzenexanamidine, and cyclo-oxigenase inhibition by Ibuprofen.

Conclusion: Lipid emulsion containing n-3 polyunsaturated fatty acids may induce a potent and sustained vasodilatation in the fetal lung. This pulmonary vasodilator response is mediated through production of vasoactive mediators by cytochrome P450 epoxygenase and through activation of potassium channels.