newborn: 3(30%) prenatally, 4(40%) by physical examination before discharge and 3(30%) after hospital discharge. Since pulsoxymetry screening (May 2013), there have been 4 patients (out of 3068 deliveries) with CCHD, all of them diagnosed before hospital discharge (2 prenatally, 2 by physical examination and pulsoxymetry). There were 2 false positives (0,06%), one of them was diagnosed of sinus inversus totalis, probably related to Kartagener syndrome.

Conclusion Conventional screening for congenital heart disease can lead to a significant rate of unrecognised CCHD. Pulsocxymetry may be a useful screening test, false-positive rate was particularly low (<0,1%).

More studies are needed to assess its long-term real value and economic impact in our heath system.

**Abstract PO-0509 Table 1** Association expressed as spearman’s p between (delta) NIRS measurements and (delta) flow measurements

**PO-0510 INHIBITION OF PENTOSE PHOSPHATE PATHWAY AND NAPDHD OXIDASE IMPAIRED THE RESPONSE OF CHICKEN DUCTUS ARTERIOSUS TO OXYGEN**

E Tserga, MM Goorts, E Villarro, Pediatrics, Maastricht University Medical Center, Maastricht, Netherlands

10.1136/archdischild-2014-307384.1154

Introduction NADPH derived from the pentose phosphate pathway (PPP) is a key system involved in maintaining the function of several important redox and antioxidant defense mechanisms. NAPDH oxidases contain a catalytic NOX subunit that transfers electrons from NADPH to oxygen, thereby forming reactive oxygen species (ROS). Normoxic contraction of the ductus arteriosus (DA), such as occurs at birth, appears to be dependent upon the increase of ROS in DA smooth muscle cells. We hypothesised a role for NOX-derived ROS in the signalling pathway of oxygen-induced contraction of the DA.

Methods We investigated the effects of the inhibition of PPP and NOX in the *ex vivo* response of chicken DA to oxygen. Experiments were performed in myograph-mounted DA rings (pulmonary and aortic sides) isolated from chicken embryos incubated for 19 days (total incubation: 21-d).

Results Exposure to oxygen (21%) induced a sustained contractile response in the pulmonary but relaxation in the aortic side of 19-d DA. Incubation with the PPP inhibitor epiprostosterone or with the NOX inhibitors GKT-136901, VAS2870 and VAS3947 elicited a partial or complete impairment of oxygen-induced contraction. Phenylenediamine and KCl-induced contraction of chicken DA were impaired by epiprostosterone and VAS3947 but not by the other NOX inhibitors. Moreover, VAS3947 evoked an irreversible impairment of the contractility of the vessel. Oxygen-induced relaxation in the aortic part of the DA was not affected by NOX inhibitors.

Conclusions Our data indicate that PPP and NAPDH oxidase activation are events involved in the signalling cascade of normoxic contraction of chicken DA.

**PO-0512 MICROVASCULAR CIRCULATORY DYSREGULATION: A NEW PARADIGM FOR CARDIOVASCULAR COMPROMISE IN THE PRETERM NEWBORN**

1 Wright, R Dyson, H Berry, B Lingwood. 1School of Medicine, University of Wollongong, Wollongong, Australia; 2Mother and Babies Research Centre HMRI, University of Newcastle, Newcastle, Australia; 3Wellington School of Medicine, University of Otago, Wellington, New Zealand; 4Perinatal Research Centre, University of Queensland Centre for Clinical Research, Brisbane, Australia

10.1136/archdischild-2014-307384.1155