227 DECREASED RENAL PERFUSION AFTER CORRECTION OF EXPERIMENTAL COARCTATION

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Extensive hemodynamic changes occur few days after a correction operation of an aortic coarctation (CoA). Paradoxically high blood pressure and even hypertensive crisis are common findings after the CoA operation. We evaluated the effect of the correction of CoA on renal perfusion (RP) using an experimental model in dogs. The CoA was caused to 11 puppies at the age of two months. During the following 7 months their blood pressure rose and they developed a typical CoA with extensive collateral circulation. At the age of 9 months of the dogs the CoA was corrected and RP was measured using a Xenon (133) washout technique. RP decreased significantly from the values immediately before the operation (3.42 ± 1.12 ml/min/g) as compared to the values 1/2 h after the correction of CoA (2.60 ± 0.56 ml/min/g, $p < 0.01$). At the same time cardiac output remained the same, being 2.4 (SD 0.9) before and 2.2 (SD 0.7) l/min 1/2 h after the correction of CoA. The only hemodynamical parameter changed was pulse pressure which increased from 11.6 (SD 4.1) mmHg to 21.2 (SD 5.8) with a p-value of < 0.001 . It is suggested that the decrease in RP may cause the high blood pressure after the correction operation.

228 DETERMINATION OF AEROBIC-ANAEROBIC THRESHOLD (AAT) IN CHRONIC RENAL FAILURE (CRF)

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Children with CRF can tolerate maximal physical performance (W_{max}), but show a diminished efficiency of respiration. For this reason we analysed aaT in 37 pts with CRF aged 9-20 yrs and 25 controls (C) by 58 exercise protocols of all-out progressive-continuous cycling tests. 11 pts were on conservative therapy (CT), 13 on regular dialysis treatment (RDT), 13 transplanted successfully (TP). The aaT was determined by: 1) rise of blood lactate (L), 2) respiratory exchange ratio (VCO_2/VO_2), 3) start of upward rise of ventilatory equivalent (Ve/VO_2) determined graphically from continuous gas registration. Results: W_{max} was reached in all but 4 subjects. In TP and C, but not in CT and RDT, L exceeded the critical L level of 4 mmol/l corresponding to a mean of 76% of W_{max} in TP and 78% in C. VCO_2/VO_2 exceeding 1 showed a wide range. The start of the upward rise of Ve/VO_2 occurred within narrow limits ranging between means of 83-88% of W_{max} in all 4 groups. In conclusion the determination of Ve/VO_2 appears to be the best suitable method to reflect true aaT in CRF. Diminished efficiency of respiration in CRF cannot be explained by a change in aaT. L metabolism seems to be disturbed in uremia, thereby excluding the use of L as a method to determine aaT.