

to A.fem.); dist.3 [=SSN to A.fem.]; dist.4 [(SSN to A.fem.) - (SSN to A.car.)].

**Results:** Mean SphygmoCor aPWV was  $4.9 \pm 0.6$  m/s. Vicorder aPWV were  $4.6 \pm 0.6$  m/s (dist.1;  $r=0.46$  for correlation with SphygmoCor;  $p < 0.0001$ );  $5.3 \pm 0.7$  m/s (dist.2;  $r=0.44$ ;  $p < 0.0001$ );  $5.2 \pm 0.7$  m/s (dist.3;  $r=0.45$ ;  $p < 0.0001$ );  $4.6 \pm 0.6$  m/s (dist.4;  $r=0.46$ ;  $p < 0.0001$ ). Using dist.1, the lowest deviation was seen ( $11.3 \pm 8.1\%$ ).

**Conclusions:** The variability between both methods is well acceptable using dist.1. Since the Vicorder is easier to handle, needs less operator training and measurements are done more quickly, it seems the appropriate device for larger cohort studies in children.

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### POSTNATAL FOLLOW-UP OF ANTENATAL HYDRONEPHROSIS

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Antenatal hydronephrosis is diagnosed in 1% to 5% of all pregnancies; however, the antenatal and postnatal management of hydronephrosis varies widely. The main point of postnatal management is the identification of the minority of patients whose renal function is at risk. Postnatal follow-up was considered successfully established when the patient with unresolved ANH has been evaluated in our pediatric nephrology service and had two normal postnatal USs that documented resolution of ANH. Screening of approximately 13125 ultrasound (US) reports identified 210 (1.6%) fetuses with ANH. 176 infants were included in follow-up. 30 (14%) were lost to follow-up. 4 with renal malformation were excluded. 176 infants were diagnosed with mild 105 (59.7%), moderate 59 (33.5%) and severe 12 (6.8%) hydronephrosis.

76.1% were males; unilateral and bilateral hydronephrosis were diagnosed in 116 (66%) and 60 (34%) cases, respectively; the rate of left hydronephrosis was 70.5%.

Ultrasound evaluation of hydronephrosis was performed with morpho-dynamic technique. This method assesses the maximum dilation after filling bladder and then after voiding. Thus a functional or organic dilation can be detected.

At 3<sup>th</sup> month Us control, 53% of mild-group recover spontaneously.

Voiding cystourethrography was performed in 25% of mild-group. No ureteropelvic junction or obstruction and vesicoureteric reflux were detected. At the end of follow-up (24<sup>th</sup> month) mild/moderate groups recover.

Urinary tract malformations were found only in severe hydronephrosis while in mild/moderate group only "excretory system dysmaturity" was evidenced. Our trial showed a decreased use of invasive diagnostic procedure.

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### SERUM AND URINE CYSTATIN C AND NEUTROPHIL GELATINASE-ASSOCIATED LIPOCALIN (NGAL) IN ASPHYXIATED TERM NEONATES: PRELIMINARY RESULTS

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**Background:** Cystatin C (CysC) and neutrophil gelatinase-associated lipocalin (NGAL) are novel biomarkers of acute kidney injury (AKI).

**Objective:** To evaluate CysC and NGAL in the serum and urine of term neonates with AKI secondary to acute asphyxia.

**Patients-methods:** Prospective study in term neonates with severe acute asphyxia and AKI ( $n=8$ , serum creatinine  $\geq 1.5$  mg/dL or rising values  $>0.3$  mg/dL from baseline) and healthy term ones ( $n=10$ ). Blood and urine samples were obtained on day 1 and 3 of life (DOL) for CysC and NGAL measurement (ELISA).

**Results:** Serum CysC was increased in neonates with asphyxia-AKI vs. healthy ones without the differences being significant (DOL 1;  $2.04 \pm 1.02$  mg/L vs.  $1.85 \pm 0.35$  mg/L,  $p=0.609$ , DOL 3;  $2.04 \pm 1.13$  vs.  $1.65 \pm 0.35$  mg/L,  $p=0.435$ ). Similarly, serum NGAL was higher -although not significantly- on DOL 1 ( $155.3 \pm 140$  ng/mL vs.  $55.2 \pm 33$  ng/mL,  $p=0.087$ ) and DOL 3 ( $144.2 \pm 151$  ng/mL vs.  $23.9 \pm 9.6$  ng/mL,  $p=0.109$ ) in neonates with AKI. In the latter group, however, significantly increased urine values of CysC (DOL 1;  $275 \pm 0.127$  ng/mL vs.  $42 \pm 127$  ng/