was >99th percentile in the four limbs. The retina was normal. She performed the following exams, all normal: blood cell count, blood urea, creatinin, ions, lipid profile, thyroid function, rennin, aldosterone, urine sediment and urinary catecholamins, metanefrins, homovanillic and vanilmandelic acid. The cardiac and abdominal ultrasounds were also normal. The renal Doppler ultrasound was "not suggestive of renovascular disease". With these results, she performed a renal cintigraphy with DMSA that showed a "hipofixation of the contrast in the superior half of the left upper renal pole". After it, she performed a renal arteriography, which confirmed the left renal artery stenosis and an angioplasty was made, with success.

Conclusions: This diagnosis was delayed by the normality of some exams, specially the renal Doppler ultrasound and the plasmatic renin activity. However, it is important to underline that if the suspicion index is high, the persistence on the evaluation should involve the second line exams, like in this case.

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GROWTH MONITORING IN CHRONIC KIDNEY DISEASE

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Background and aims: Growth failure is a common feature in Chronic Kidney Disease (CKD) and frequently leads to decreased adult height. Malnutrition, biochemical abnormalities and reduced sensitivity to growth hormone (GH) contribute to growth failure. We compared our practice to the standards set by Renal Association for growth monitoring and National guidelines on GH use.

Methods: Growth monitoring in children with GFR < 20ml/min/1.73m² was reviewed over a period of 2 years from 2008-2009. 16 cases were identified. Case notes and growth charts were reviewed.

Results: 4/16 (25%) children did not have height and weight plotted during every clinic visit as recommended. All children < 2 years old had their head circumference plotted.

82% children had 3 monthly dietary review as recommended.

10/16(62.5%) children had Parathyroid hormone (PTH) > 15pmol/L (3 x upper limit) and 4/16(25%) had bicarbonate < 20mmol/L.

50% children were referred to growth clinic appropriately.

7/16(43%) had height < 3rd centile and 5/16(31%) had height velocity < 3rd centile. 4/16 children (25%) had both height and height velocity < 3rd centile. Of these 2 children were prescribed GH, one child was only recently referred to growth clinic and one child is being monitored as PTH level is high.

Conclusion: Growth monitoring could be improved to meet Renal Association recommendations. This analysis shows that biochemical control in advanced CKD is difficult to achieve despite dietary and medical manipulations. Growth Hormone therapy was prescribed appropriately and can only be considered after nutrition optimised and metabolic abnormalities corrected.

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MEASUREMENT OF AORTIC PULSE WAVE VELOCITY IN CHILDREN AND ADOLESCENTS - VALIDATION OF THE VICORDER DEVICE IN HEALTHY INDIVIDUALS

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Background and aims: Aortic pulse wave velocity (aPWV) estimates aortic stiffness and predicts cardiovascular mortality risk in adults. Since children with kidney disease are at high risk for cardiovascular mortality later in life, it would be important to detect advanced arterial stiffening early. There are different ways to assess aPWV. This study compares aPWV values of young individuals measured by applanation tonometry (SphygmoCor) and with a new oscillometric device (Vicorder).

Methods: aPWV in 131 healthy children (age 6-18 years) was measured 1. by sequential tonometry and 2. by oscillometry in a synchronic manner. SphygmoCor aPWV was calculated with distance 1 (dist.1) [(Suprasternal notch(SSN) to Umbilicus(Umb)) + (Umb to A.fem.) - (SSN to A.car.)]. For Vicorder 3 additional distances were measured and used: dist.2 [(SSN to Umb) + (Umb

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 ± 0.6 m/s. Vicorder aPWV were 4.6 ± 0.6 m/s (dist.1; $r=0.46$ for correlation with Sphygmocor; $p < 0.0001$); 5.3 ± 0.7 m/s (dist.2; $r=0.44$; $p < 0.0001$); 5.2 ± 0.7 m/s (dist.3; $r=0.45$; $p < 0.0001$); 4.6 ± 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 3th 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 (24th 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 ≥ 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 ± 1.02 mg/L vs. 1.85 ± 0.35 mg/L, $p=0.609$, DOL 3; 2.04 ± 1.13 vs. 1.65 ± 0.35 mg/L, $p=0.435$). Similarly, serum NGAL was higher -although not significantly- on DOL 1 (155.3 ± 140 ng/mL vs. 55.2 ± 33 ng/mL, $p=0.087$) and DOL 3 (144.2 ± 151 ng/mL vs. 23.9 ± 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 ± 0.127 ng/mL vs. 42 ± 127 ng/