

UREA CYCLE DISORDERS: CLINICAL, BIOCHEMICAL AND GENETIC FINDINGS IN ARGENTINEAN PATIENTS

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Urea cycle disorders (UCD) encompass several enzyme deficiencies with a wide clinical spectrum from asymptomatic to severe, mostly with cerebral damage.

Objective: to communicate the autochthonous experience in the recognition of UCD. The diagnosis protocol included phenotype compatibility, metabolites analysis by HPLC, and genetic analysis by PCR, restriction assays, sequencing and MLPA.

We recognised: i) Ornithine transcarbamylase deficiency, 11 patients: 2 males with neonatal onset (OTC mutations: delExon2-10, c.533C>T), 4 males with late onset (c.216+1G>A, c.386G>A, c.622G>A, c.829C>T), 5 females (delExon2-10, c.533C>T, c.452T>G, c.540+1G>A); ii) Argininosuccinate synthetase deficiency, Citrullinemia type I (CTLN1), 16 patients from 10 unrelated families from San Luis Province, all showed the same ASS1 mutation: c.1168G>A/c.1168G>A and died during neonatal period. This change was studied on their relatives and 172 healthy volunteers. The calculated carrier frequency in that population was 4.1%, suggesting the incidence of CTLN1 to be 1:2,427; iii) Argininosuccinate lyase, 1 patient with biochemical diagnosis, died during neonatal period.

Our experience remarks: a) a high morbi-mortality at least in our region, despite an early diagnosis and prompt treatment, b) OTC heterozygotes showed severe manifestations and mostly early onset, c) due the high CTLN1 incidence in a risk population, we recommend a preconception carrier screening.