EPR2165. RCT assessing 2mg bumetanide as a therapeutic agent for a focal attack of weakness in Hypokalaemic Periodic Paralysis (HypoPP)

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Background and aims: HypoPP is a genetic disorder characterised by recurrent attacks of weakness in association with low serum potassium levels. Inhibition of the Na-K-2Cl cotransporter using Bumetanide may be a potential therapeutic strategy based on mouse model studies.

Methods: ClinicalTrials.gov Identifier: NCT02582476

An RCT was performed assessing if bumetanide could abort an episode of focal hand weakness in patients with HypoPP. A focal attack of weakness was induced by hand rest following exercise (McManis protocol). Participants received either placebo or 2mg bumetanide on two different occasions at the attack onset defined as 40% decrement in abductor digiti minimi (ADM) compound muscle action potential (CMAP) amplitude from the maximum response. Electrophysiological measurements assessed the severity and the duration of the attack following 4h of IMP intake.

Results: 9 participants completed both trial visits. There was no statistically significant difference in CMAP amplitude between the treatment groups at 1h (p=0.27, primary outcome). Two participants recovered from the attack of weakness (≤35% decrement in ADM CMAP amplitude from the maximum response) within 4 hours following bumetanide intake; none recovered following placebo intake (≥40% decrement). There were no serious adverse events

Conclusion: 2mg bumetanide was safe but not effective to rescue a focal attack in an immobilised hand in the majority of patients. However, our data supports further studies of this agent. The McManis test used as an objective outcome measure in a clinical trial for the first time was well tolerated.

Disclosure: Nothing to disclose