

EFFECT OF NONSTEROIDAL ANTI-INFLAMMATORY DRUGS IN WITH BARTTER SYNDROME

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INTRODUCTION

Bartter syndrome (BS) is a congenital salt-wasting tubulopathy with an induced expression of cyclooxygenase-2 in the macula densa leading to hyperreninemia. Renin Angiotensin Aldosterone system (RAAs) activation leads to hypokaliemic alkalosis. NAIDs are now currently used in BS, however few study investigated the effect of NAIDs on RAAs activation, biological parameters and treatment modifications.

PATIENTS AND METHODS

Patients:

- ☐ 19 patients
- ☐ Mutations:
 - SLC12A1 (n=5;29,4%)
 - CLCNKB (n=10;58,9)
 - KCNJ1 (n=2;11,8%)
- ☐ Median age at treatment initiation: 7 [3,8-48,9] month old
- ☐ Treatment regimen:
 - Indométhacine 3mg/kg/j (16/19)
 - or Ibuprofène 30mg/kg/j (3/19)

RESULTS

Table 1: Electolytes, hydration status and Na and K intakes after treatment

	Before NAIDS treatment	After NAIDS treatment	p
Na (mmol/L)	138 [136,5;139,5]	139 [138;141,5]	0,05
K (mmol/L)	3 [2,5;3,5]	3 [2,95;3,9]	0,24
Serum bicarbonates (mmol/L)	28 [26,5;31,0]	27 [26;30,5]	0,21
Protidemia (g/L)	75 [68,5;78,0]	73 [7,05;77,5]	0,73
Serum creatinine (µmol/L)	29 [22-36]	31 [26;41,5]	0,54
Serum renin (mUI/L)	1532 [986;2633]	226 [133,5-657]	0,01
Serum Aldosterone (pg/mL)	380 [214,5;974]	229 [68;287,5]	0,14
Sodium intake (mEq/kg/day)	11,6	6,2	<0,01
Potassium intake (mEq/kg/day)	10,6	3,5	<0,01

Table 2: Evolution of calcium metabolism markers after treatment

	Before NAIDS treatment	After NAIDS treatment	p
Ca (mmol/L)	2,5 [2,48;2,69]	2,5 [2,47;2,68]	0,36
Ph (mmol/L)	1,7 [1,54;1,81]	1,4 [1,26;1,61]	0,05
PTH (ng/mL)	60 [23,4;104,0]	38 [27,8;52,3]	0,11
25OH Vitamin D	35 [23,5;41,5]	32 [17,5;35]	0,28
1-25OH Vitamin D	95 [67,5-152,3]	101 [84,0;109,0]	0,64
Urine Ca/creat ratio (mmol/mmol)	3,9 [1,4;4,8]	1,2 [0,2-2,3]	0,01

Complications:

- 2 gastrointestinal bleedings
- 1 erosive duodenitis
- 1 necrotizing enterocolitis

The normalization of serum renin level is associated with a lower need for serum intake probably through a better control of the sodium depletion.

Conclusion

We confirm the **major benefit of NAIDs treatment** in patients with BS. We also assess that **monitoring renin serum level is of interest** to adapt patients' treatments. Finally, we demonstrate a **benefic effect of NAIDs both on the decrease of the calciuria and the decrease of bone turn-over.**

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