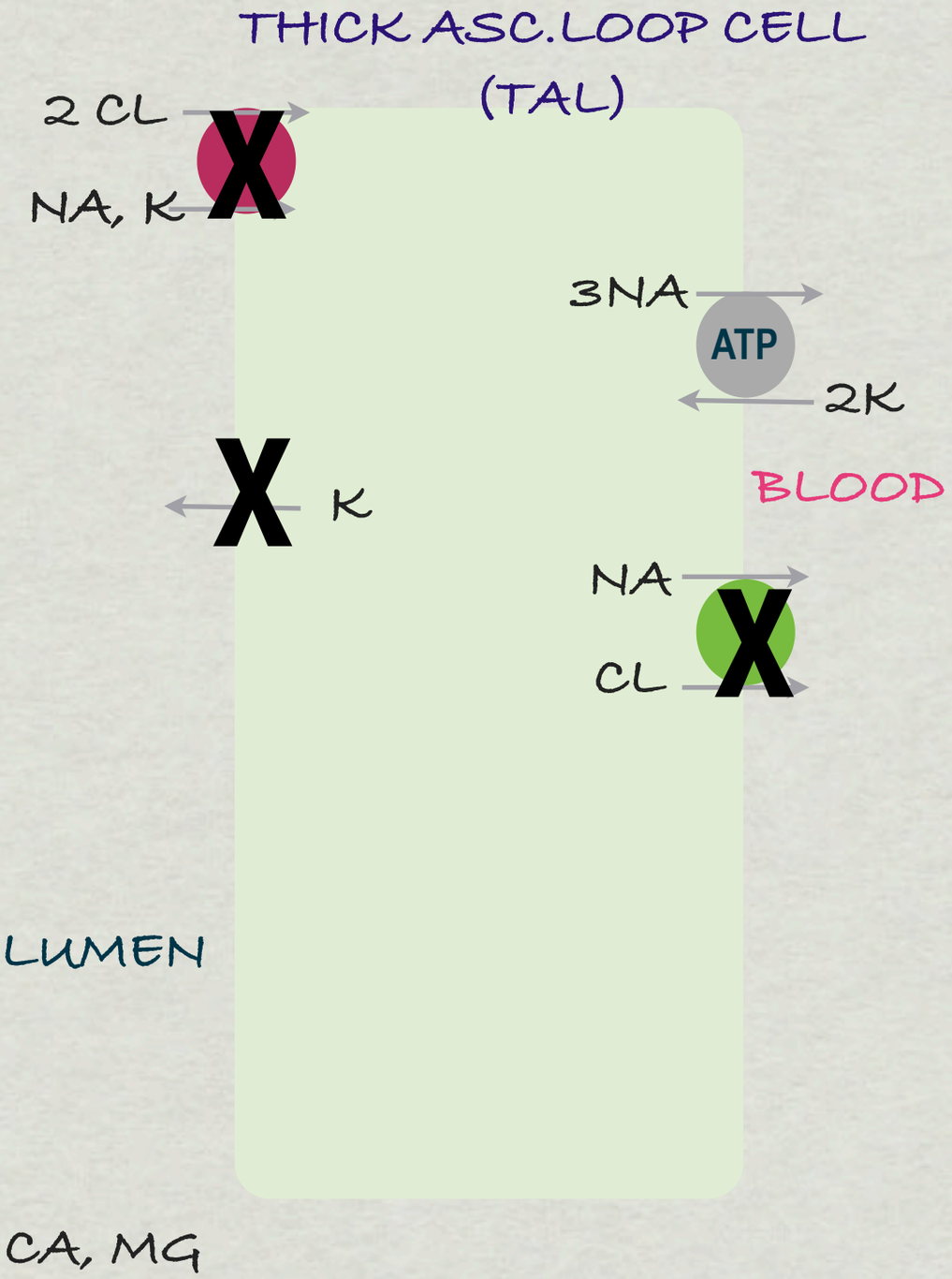
Bartter syndrome



- autosomal recessive disease due to a defect on any of the pumps and channel on the pic, looking "like being on furosemide all the time"
- Presentation: metabolic alkalosis with hypoK-emia
- Diagnostic of exclusion based on labs; genetic testing rarely done (definitive diagnostic).
- Difference w/ surreptitious vomiting by high urinary Cl; difference w/surreptitios diuretic abuse by higher level of urinary Cl than diuretics, also by a urine assay for diuretics
- It's a secondary hyperaldosteronism. Difference w/ primary hyperaldosteronism by low/ normal serum Na -> normal blood pressure and high plasma renin (due to volume loss).
- Treatment: NSAIDs (renal prostaglandins are produced in Bartter sd) and K sparing diuretic (spironolactone, amiloride)

Labs analysis

	Urinary Cl	Plasma renin	Plasma ALDO	Serum K	Serum HCO3	Serum Na
Diuretic use	↑ > 20	↑	↑	↓	↑	↓ / normal
Vomiting	↓ < 10	↑	↑	↓	↑	↓
Bartter/ Gitelman	↑↑ > 40	↑	↑	↓	↑	↓ / normal
Primary H-ALDO	↑↑ > 40	↓	↑	↓	↑	↑
Renin secr. tumor	↑ > 40	↑	↑	↓	↑	↑
Factitious diarrhea	↑ ***	↑	↑	↓	↓	↓ / normal

*** in diarrhea, Urinary Cl can varies, being increased in case of metabolic acidosis

Bartter vs Gitelman

	Bartter sd. (like being on LOOP diuretic all the time)	Gitelman sd. (like being on THIAZIDES all the time)
genetic	aut recessive	aut recessive
sign	POLYURIA, POLYHYDRAMNIOS	POLYURIA
LABS	h-K-emia metab.alkalosis	h-K-emia met.alkalosis
Urinary Ca or urine Ca/ creatinine	Ca-URIA normal->high	Ca-uria low
Pathophysiology	NaCl& water is lost in urine by defects on Na,K, 2Cl cotransporter or other pumps on TALH-> activates Ren,Ang,ALDO system	NaCl and water is lost in urine by defect on Na,Cl pump on DT -> activates Ren,Ang,ALDO system
Tx	NSAIDs and K sp.diuretics	K sp diuretics, ACEI