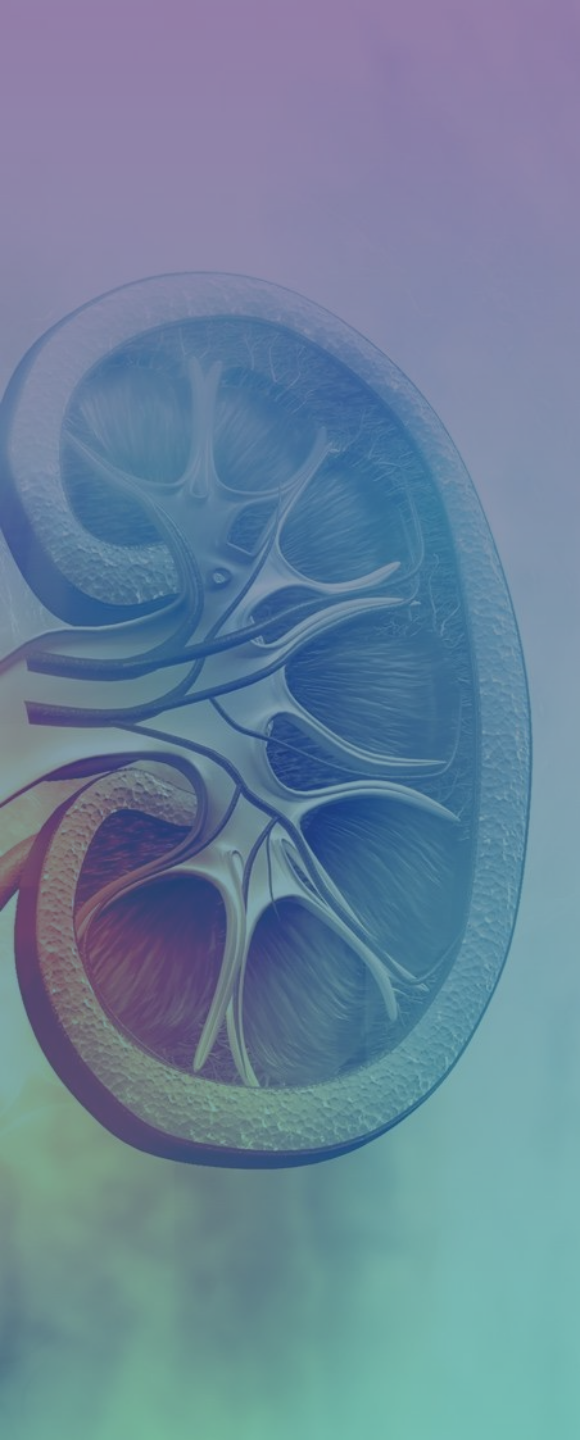


UNICYCIVE
THERAPEUTICS INC.

Fast and High Phosphate Reduction with Lanthanum Dioxycarbonate vs. Selevamer in In-Vivo Study

Atul Khare[1], PhD; Pramod Gupta[1], PhD

[1]Unicycive Therapeutics, Inc., Los Altos, CA

Introduction

BACKGROUND

- Over 7 million patients suffer from end-stage kidney disease (ESKD) worldwide[1]
- Due to low kidney function, patients often become hyperphosphatemic, which leads to an increased risk of death[2]
- Patients usually rely on dietary restriction and phosphate (P) binders to address hyperphosphatemia
- Current P binders often do not achieve desired levels of P[3] and have a high pill burden due to a high quantity of large pills[4, 5]

BACKGROUND (Cont.)

- A therapeutic option with a potentially smaller dose volume (i.e., fewer pills and smaller pill size) and efficacy similar to or possibly better than current products would enhance patient quality of life (QoL)
- Lanthanum dioxycarbonate (LDC), RENAZORB, is a novel nanotechnology product that combines lanthanum, which has the highest binding capacity vs. other P binders,[6] with a potentially smaller pill size that is swallowed rather than chewed

OBJECTIVE

We present the results of an in-vivo study evaluating the reduction of urine P levels and P/creatinine ratios by LDC and sevelamer (SVH)

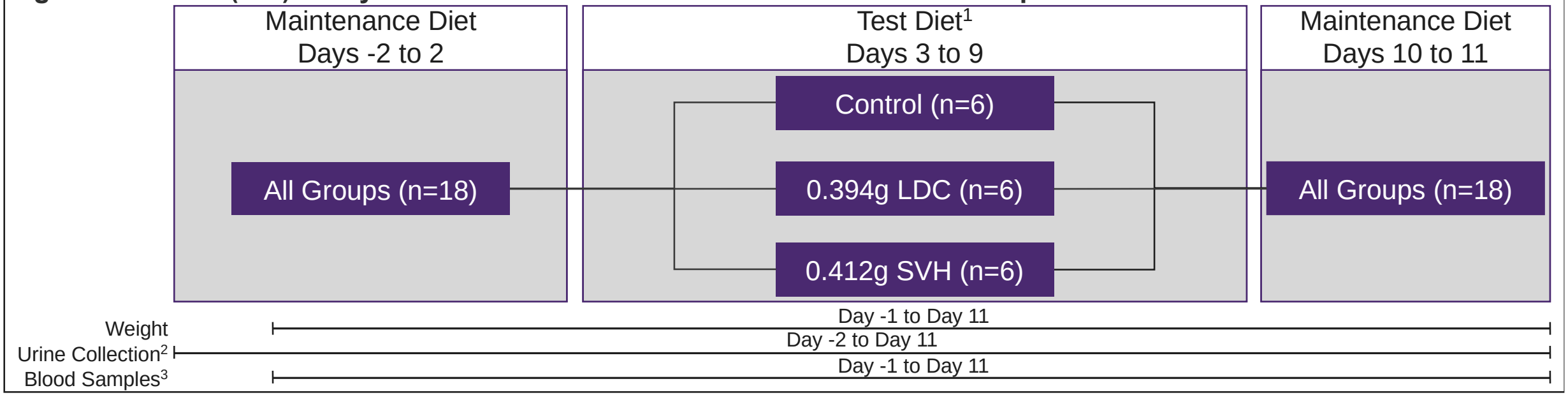
1 991_Lv JC, et al. Adv Exp Med Biol. 2019.; 2 915_Portale AA, et al. Am J Kidney Dis.2014.; 3 40_DOPPS. DOPPS. 2020.; 4 983_Chiu YW, et al. Clin J Am Soc Nephrol. 2009.;
5 994_Arenas MD, et al. Nefrologia. 2010.; 6 1_Daugirdas JT, et al. Semin Dial. 2011.;
Xelay Acumen; Updated as of 4/14/2021

Methods

METHODS

- An in-vivo study evaluated the urine P and creatinine levels by LDC and SVH in healthy rats
- 3 groups (6 rats per group) received control diet, 0.394g LDC/day, or 0.412g SVH/day (LDC and SVH are comparable doses) for 7 days

Figure 1: Animal (Rat) Study for Serum Lanthanum and Serum and Urine Phosphate/Creatinine Levels



1 A mixture of Sigmacell Cellulose, Teklad diet, and LDC or Renagel™ (SVH); a 500 mL polypropylene bottle was weighed, and the weight was recorded for preparation of test die
2 Creatinine (to permit normalization to serum creatinine levels), and lanthanum (days 3 and 9 only) were collected from all surviving animals at approximately 3.5 to 4 hours postdose on days 1 to 11
3 Samples collected on days 3 and 9 was used for analysis of serum lanthanum values

SOURCE: Unicyicive data on file [m4-2-1-1-rat-mpi-1071-001.pdf]; Updated as of 4/14/2022

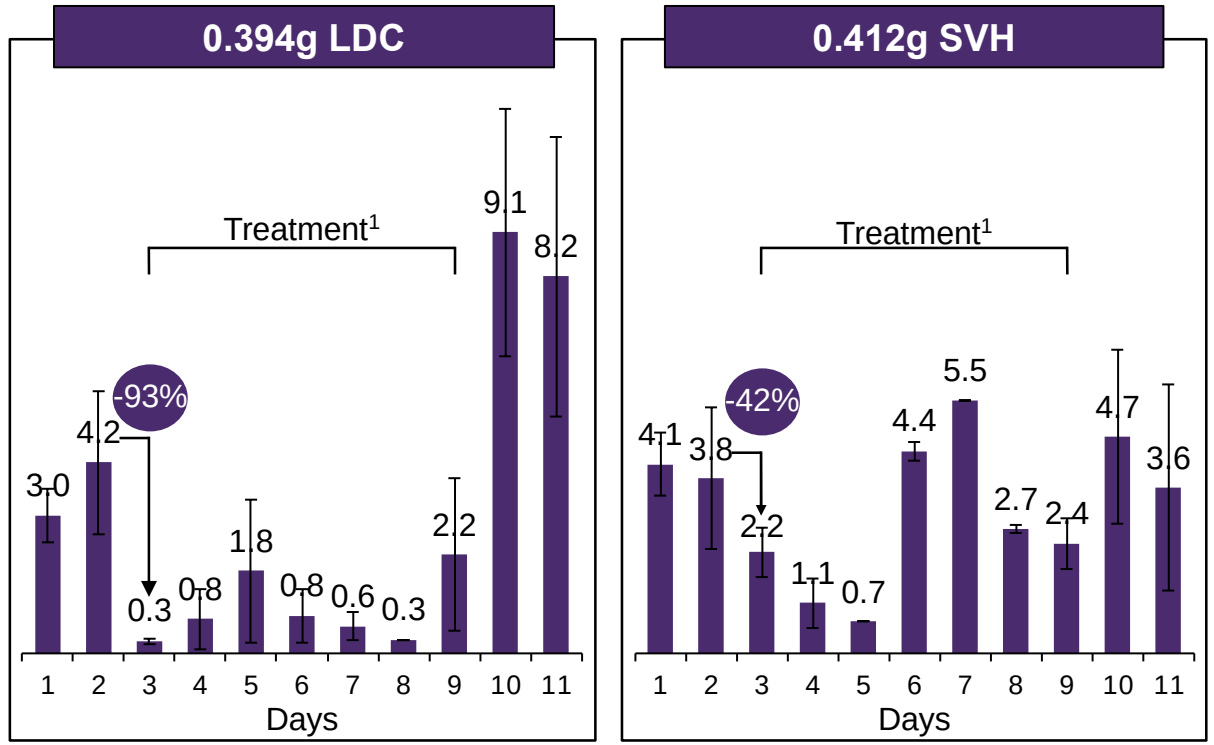
Results (1 of 2)

RESULTS

- On day 1, LDC reduced urine phosphate excretion by 93% vs. 42% with SVH **(Figure 2)**
- LDC reduced urine phosphate excretion throughout the treatment
- LDC has similar decrease in urine creatinine as SVH

Figure 2: Urine Phosphate Excretion per Day – In-Vivo Preclinical Study

mg/Day, Mean (±SE)



1 Urine tests that reflect treatment of medication

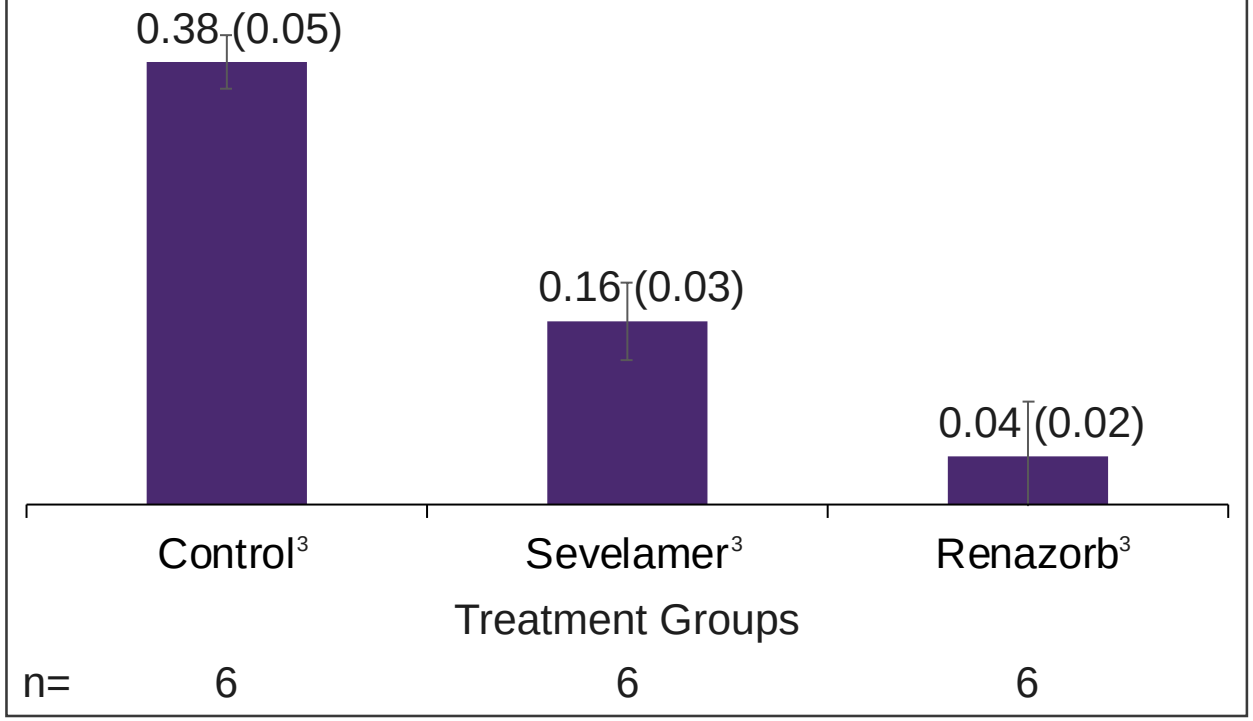
SOURCE: Unicyicive data on file [m4-2-1-1-rat-mpi-1071-001.pdf]; Updated as of 4/14/2022

Results (2 of 2)

RESULTS

- LDC has more reduction in urine phosphorus/creatinine ratios (0.38) vs. SVH (0.16) or control (0.04) **(Figure 3)**
- The health of surviving animals did not appear to be affected
- The incidence of animals that did not survive the study duration was similar across groups

Figure 3: Mean (±SE) Urine Phosphorus/Creatinine Ratios[1] Among Renazorb, Sevelamer, and Control Groups of Rats (On Treatment[2])



1 Phosphate/Creatinine Ratio is measured after the administration of Renazorb®, RENAGEL®, and/or Lanthanum Carbonate Tetrahydrate in the diet of male rats; Higher phosphorus excretion per creatinine clearance was associated with CKD progression

2 On treatment is the phosphate/creatinine ratios from study day 3 to day 9

3 SVH dose = 0.412g; LDC dose = 0.394g

SOURCE: Unicyicive data on file [m4-2-1-1-rat-mpi-1071-001.pdf]; Updated as of 4/14/2021

Conclusion and Implications

CONCLUSION

- Lanthanum dioxycarbonate (LDC) demonstrated equivalent or more decrease in urine phosphate excretion vs. sevelamer (SVH)
- LDC showed similar decrease in urine creatinine as SVH
- LDC had more reduction of urine phosphorus/creatinine ratio compared to SVH and control
- All doses of LDC were well tolerated and found safe in rats

IMPLICATIONS

- These results suggest LDC may be a suitable candidate for further development
- Potential benefits of LDC may include reduced pill burden and ease of dose administration (smaller easy-to-swallow vs. chewable), which collectively has the potential to increase patient adherence, improve treatment outcomes, and enhance QoL

SOURCE: Unicyicive data on file [m4-2-1-1-rat-mpi-1071-001.pdf]; Updated as of 4/14/2021