PEARL-HF STUDY

Evaluating the efficacy and safety of patiromer for control of sK^+ levels in patients with chronic heart failure (CHF) receiving standard therapy and spironolactone[1]

STUDY DESIGN

28-day double-blind, randomised, placebo-controlled, parallel-group study of patiromer in:

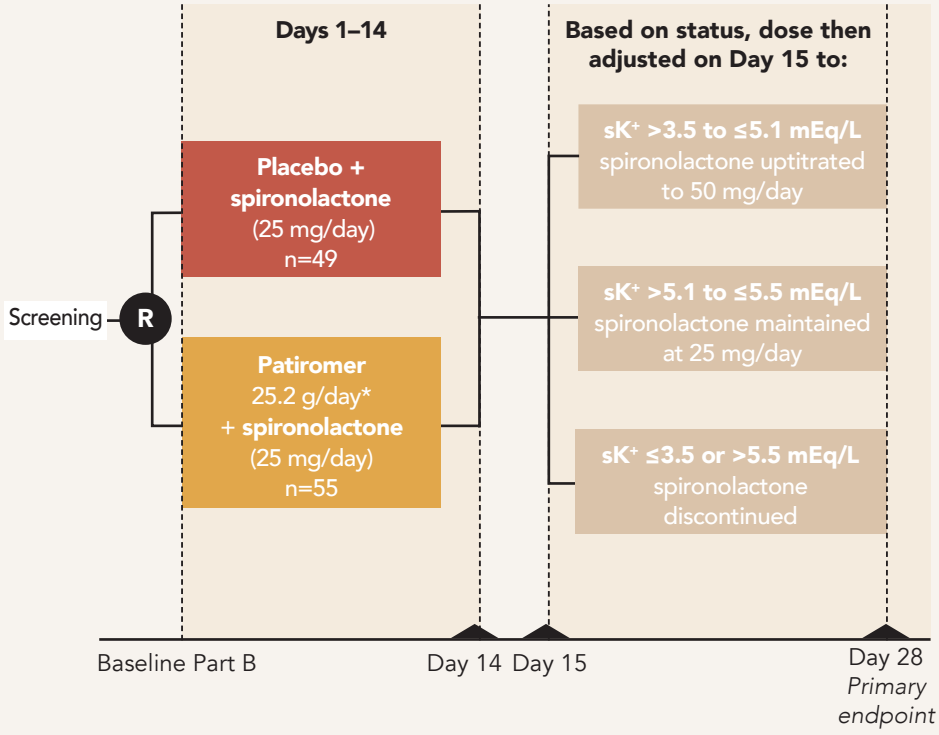
104 adults (age 18+ years) with CHF clinically indicated to receive spironolactone and sK^+ 4.3–5.1 mEq/L:

AND

- having CKD (eGFR <60 mL/min) and on ≥1 RAASi or BB

OR

- documented hyperkalaemia that led to discontinuation of RAASi or BB within 6 months



*fixed-dose (no dose titration permitted)

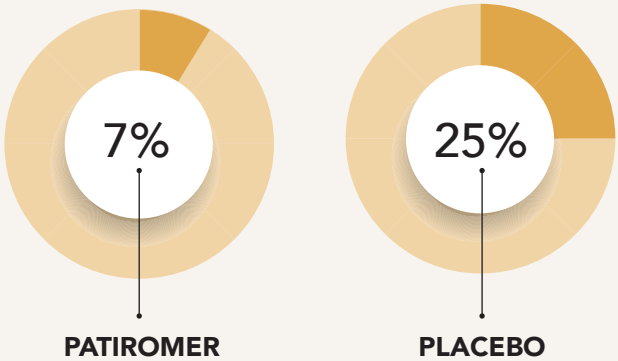
RESULTS

Primary efficacy endpoint

End-of-treatment between-group difference = –0.45 mEq/L (P<0.001)

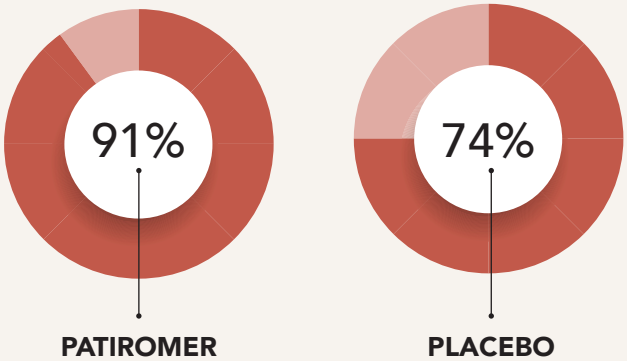
Patiromer significantly lowered sK^+ levels compared with placebo

At end of treatment (Day 28) incidence of hyperkalaemia was significantly lower with patiromer versus placebo:*



*P=0.015; hyperkalaemia defined as >5.5 mEq/L

Proportion of patients up-titrated to spironolactone 50 mg/day was significantly higher with patiromer versus placebo:



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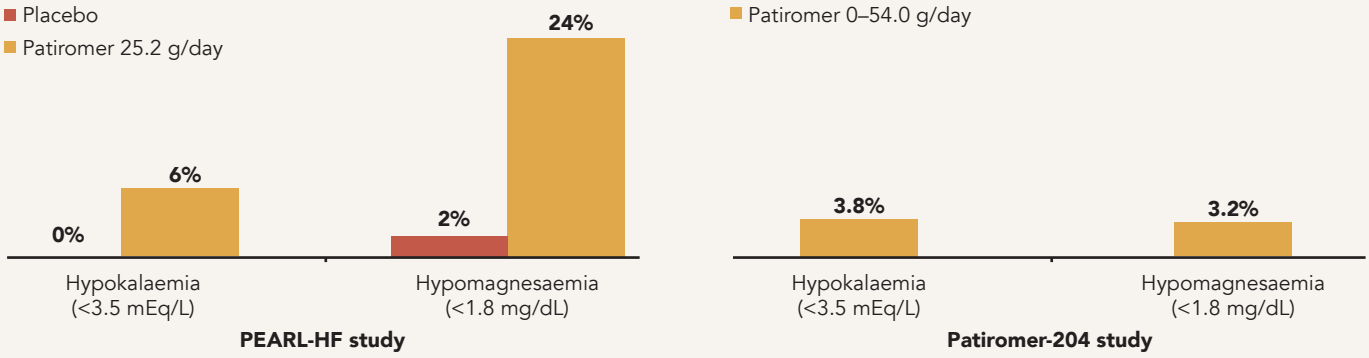
RESULTS

Safety

Patiromer was relatively well tolerated over the 4-week study

Incidence of hypokalaemia and hypomagnesaemia was higher with patiromer versus placebo, and likely due to the fixed-dose strategy used in PEARL-HF

In a subsequent trial (Patiromer-204 study), which evaluated an individualised dose titration regimen of patiromer for prevention of hyperkalaemia in a similar population (i.e. patients with HF and CKD initiating spironolactone), lower rates of hypokalaemia and hypomagnesaemia were reported, when dose titration was permitted[2]



CONCLUSIONS

PEARL-HF demonstrated that in normokalaemic patients with CHF at risk of HK who had started spironolactone therapy, administration of patiromer...*

...significantly reduced mean sK^+ levels

...prevented hyperkalaemia

...allowed more patients to increase spironolactone dosage to 50 mg/day

*compared with placebo

European Society of Cardiology consensus recommendation[3]:
Patiromer and SZC may be considered in patients with HF with or without CKD, to manage hyperkalaemia, and may enable the use of RAASis in more patients and at higher doses

Abbreviations: BB, beta blockers; BID, twice a day; CHF, chronic heart failure; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; HF, heart failure; HK, hyperkalaemia; RAASi, renin–angiotensin–aldosterone system inhibitor; sK^+, serum K^+; SZC, sodium zirconium cyclosilicate.

1. Pitt B *et al*. Evaluation of the efficacy and safety of RLY5016, a polymeric potassium binder, in a double-blind, placebo-controlled study in patients with chronic heart failure (the PEARL-HF) trial *Eur Heart J* 2011;32:820–8.
2. Pitt B *et al*. Evaluation of an individualized dose titration regimen of patiromer to prevent hyperkalaemia in patients with heart failure and chronic kidney disease *ESC Heart Fail* 2018;5: 257–66.
3. Seferovic P *et al*. Clinical practice update on heart failure 2019: pharmacotherapy, procedures, devices and patient management. An expert consensus meeting report of The Heart Failure Association of the European Society of Cardiology. *Eur J Heart Fail* 2019; doi: 10.1002/ejhf.1531. [Epub ahead of print]

VIFOR PHARMA

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