

Insomnia, muscular cramps and pruritus are absent in hemodialysis patients with good dialysis efficiency, low inflammation and arteriovenous fistula

Remus Aurel Orasan, Simona Racasan, Ioan Mihai Patiu

Nefromed Dialysis Centers, Cluj-Napoca, Romania

BACKGROUND

Poor sleep is associated with fatigue, sleepiness, impaired daytime functioning, impaired health-related quality of life, and increased morbidity and mortality in chronic kidney disease patients (1). Recovery time can be used to identify patients with poorer health-related quality of life and higher risks of hospitalization and mortality (2). Pruritus was reported to be associated with depression and mortality in hemodialysis patients (3). Insomnia, muscular cramps, pruritus and recovery time after hemodialysis and other possible associated factors are still controversial quality of life parameters in hemodialysis patients.

METHODS

This was a single center, prospective, transversal and observational study which included 171 end-stage renal disease patients (age: 59.5 ± 15.2 years and dialysis vintage: 89.7 ± 125.6 months): 115 patients were on high-flux hemodialysis (HD) and 56 patients were treated with on-line hemodiafiltration (HDF).

Patients were asked "How long does it take you to recover from a dialysis session?" and they evaluated the intensity (absent, mild, medium and severe) of insomnia, muscular cramps and pruritus in the past 4 weeks.

We studied associations of postdialysis recovery time, insomnia, muscular cramps and pruritus with themselves and age, dialysis vintage, sex, body mass index, hemoglobin, albumin, C-reactive protein (CRP), Daugirdas single-pool Kt/V (Kt/V), ultrafiltration volume, blood processed volume and vascular access type.

Statistics

Unifactorial Anova test for numerical data and Pearson's Chi-squared test for factors were used.

RESULTS

Absence of insomnia was significantly associated with absence of muscular cramps ($p=0.01$, figure 1) and with dialysis on arteriovenous fistula (AVF) ($p=0.01$, figure 2). The absence of muscular cramps was associated with the absence of pruritus ($p=0.007$, figure 3) and with AVF ($p=0.007$). Low albumin level was predictive for severe insomnia ($p=0.008$) and severe pruritus ($p=0.04$, Figure 4), while CRP was significantly higher in severe vs. absent insomnia ($p=0.002$). Severe pruritus was associated with significantly lower Kt/V compared to absent pruritus ($p=0.01$).

Figure 1. Absence of insomnia and muscular cramps

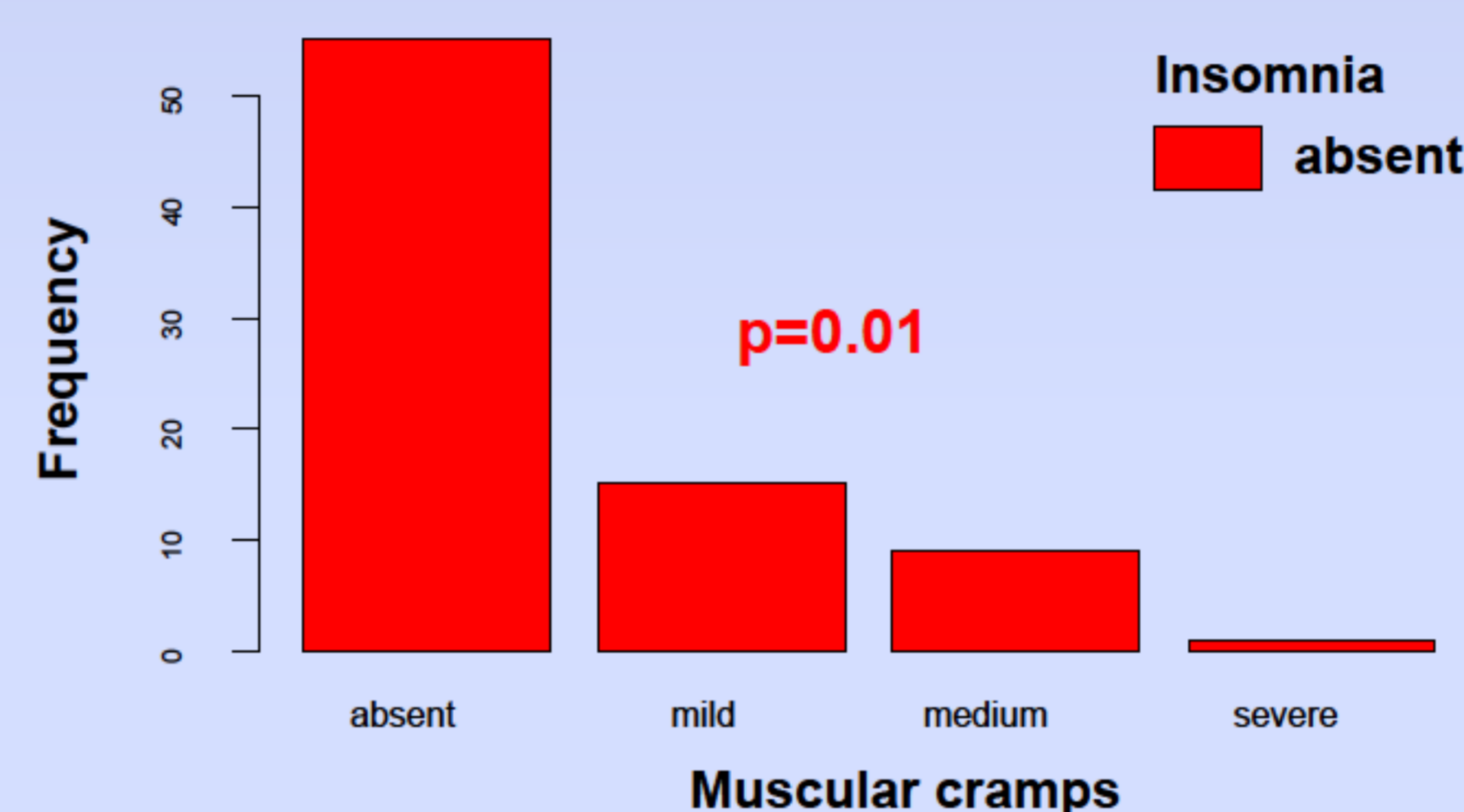


Figure 2. Insomnia and vascular access

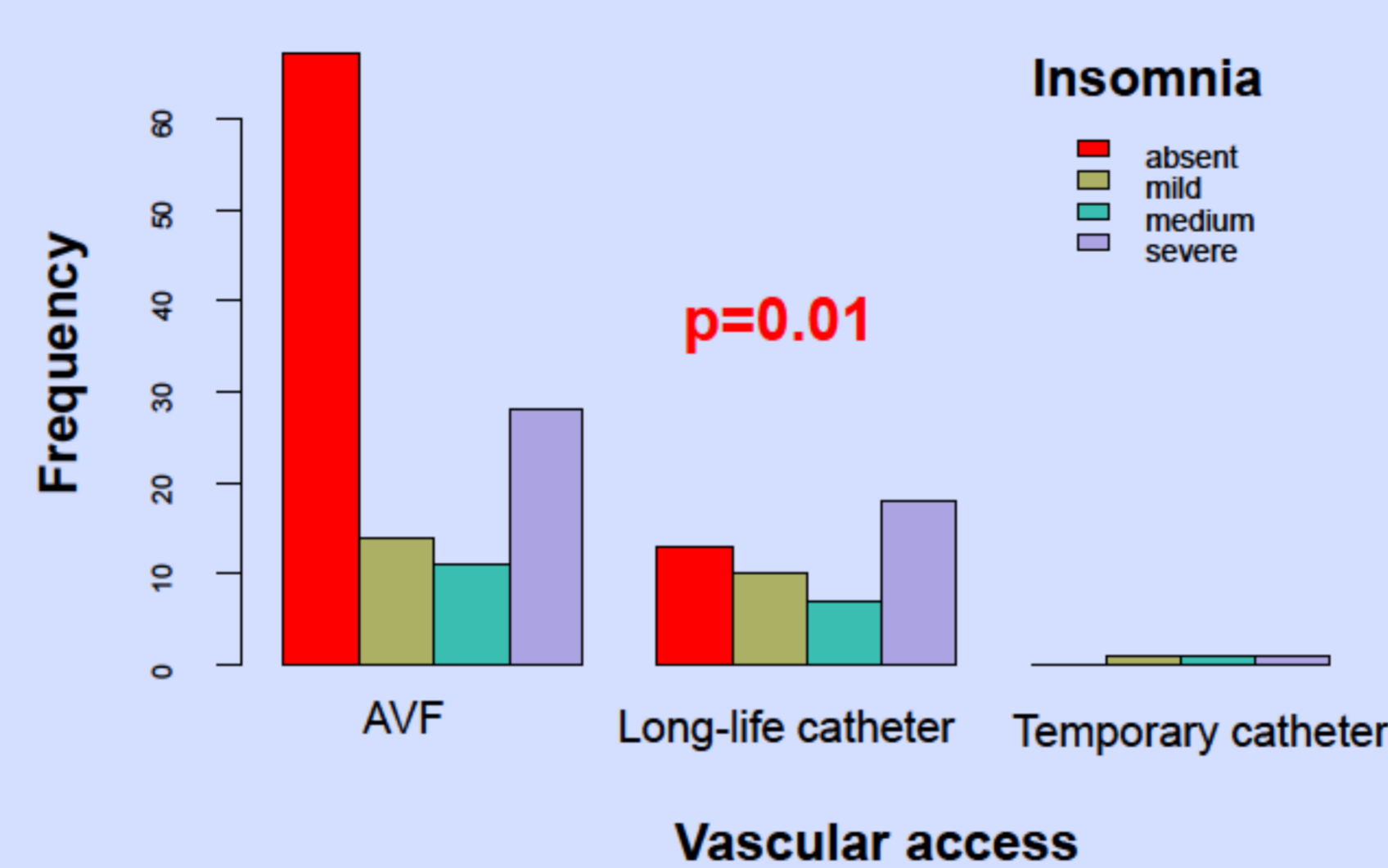


Figure 3. Absence of muscular cramps and pruritus

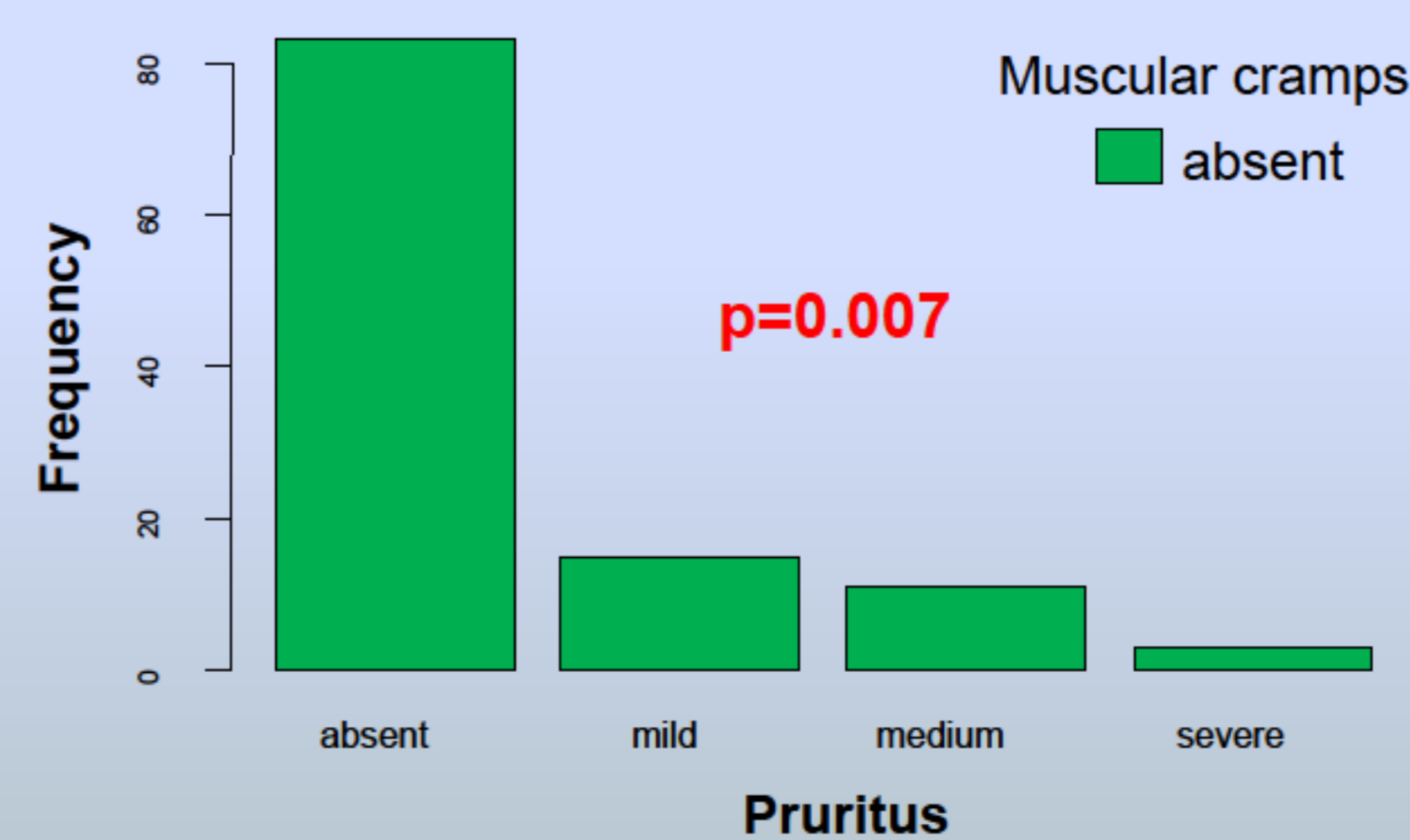
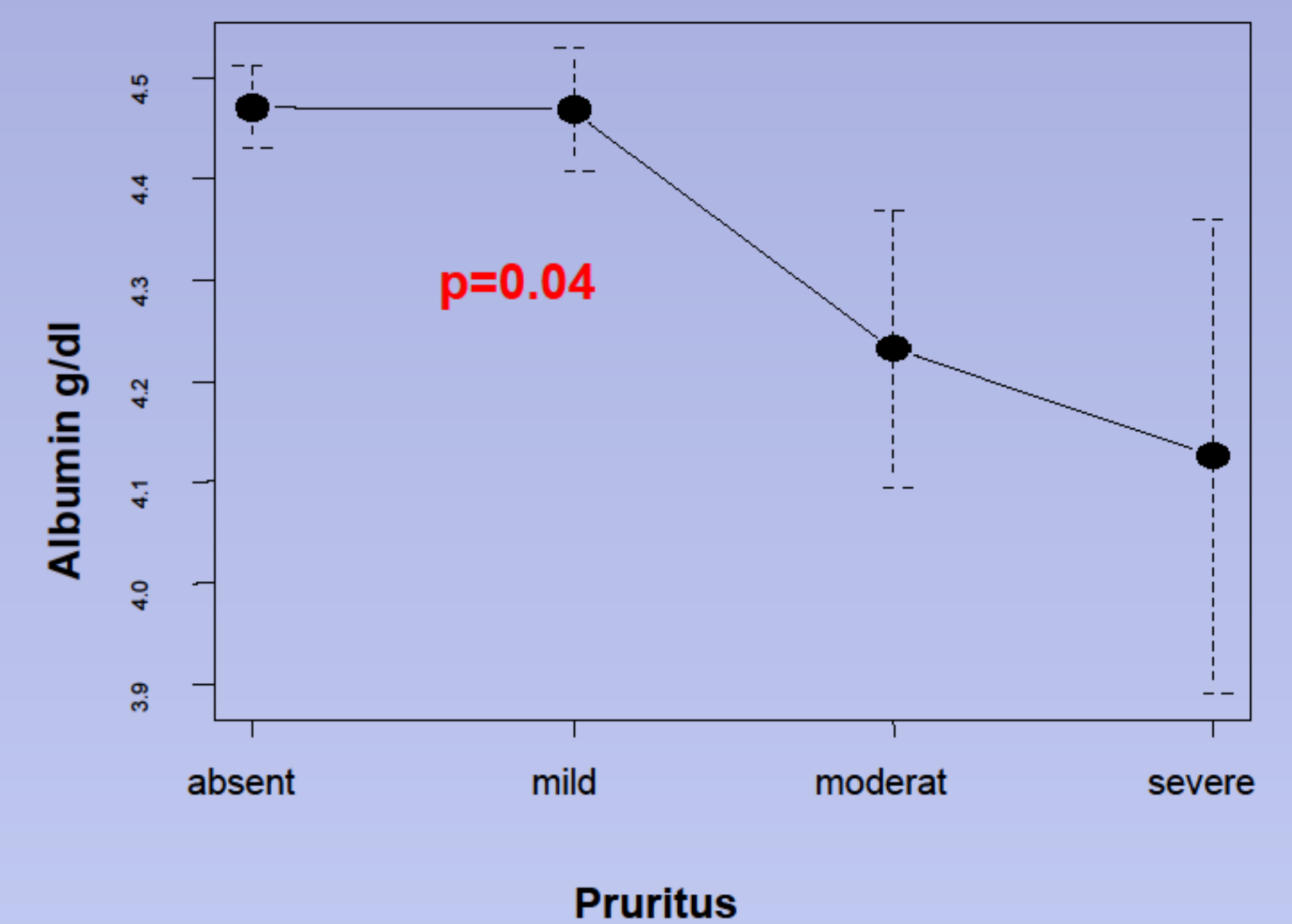


Figure 4. Albumin mean value in each pruritus intensity level



CONCLUSION

HD patients with AVF had less insomnia, muscular cramps and pruritus.

Inflammation (low albumin and high CRP levels) was associated with severe insomnia and pruritus.

Increased dialysis efficiency improved pruritus.

Recovery time after HD had no significant relations with any studied parameter.

There was no difference of studied quality of life features between HD and HDF patients.

REFERENCES

- Lindner AV, Novak M, Bohra M, Mucsi I: Insomnia in patients with chronic kidney disease. *Semin Nephrol.* 2015 Jul;35(4):359-72
- Rayner HC, Zepel L, Fuller DS, Morgenstern H, Karaboyas A, Culeton BF, Mapes DL, Lopes AA, Gillespie BW, Hasegawa T, Saran R, Tentori F, Hecking M, Pisoni RL, Robinson BM: Recovery time, quality of life, and mortality in hemodialysis patients: the Dialysis Outcomes and Practice Patterns Study (DOPPS). *Am J Kidney Dis.* 2014 Jul;64(1):86-94
- Pisoni RL, Wikstrom B, Elder SJ, Akizawa T, Asano Y, Keen ML, Saran L, Mendelssohn DC, Young EW, Port FK: Pruritus in haemodialysis patients: international results from the Dialysis Outcomes and Practice Patterns Study (DOPPS). *Nephrol Dial Transplant.* 2006 Dec;21(12):3495-505