

CAN DIET AND PHOSPHORUS CHELATORS IMPROVE COGNITIVE IMPAIRMENT IN PATIENTS ON CHRONIC HEMODIALYSIS?

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OBJECTIVES

Hyperphosphatemia in chronic hemodialysed patients is incriminated for increasing cardiovascular risk by changes produced in the vascular endothelium, being responsible for the arterial stiffness. Recent studies prove that increased arterial stiffness in elderly population is associated with increased risk of cognitive impairment.

The aim of our study is to investigate whether there is any association between serum phosphate value and cognitive impairment in chronic patients undergoing hemodialysis and if a low phosphorus diet can improve cognitive impairment in these patients.

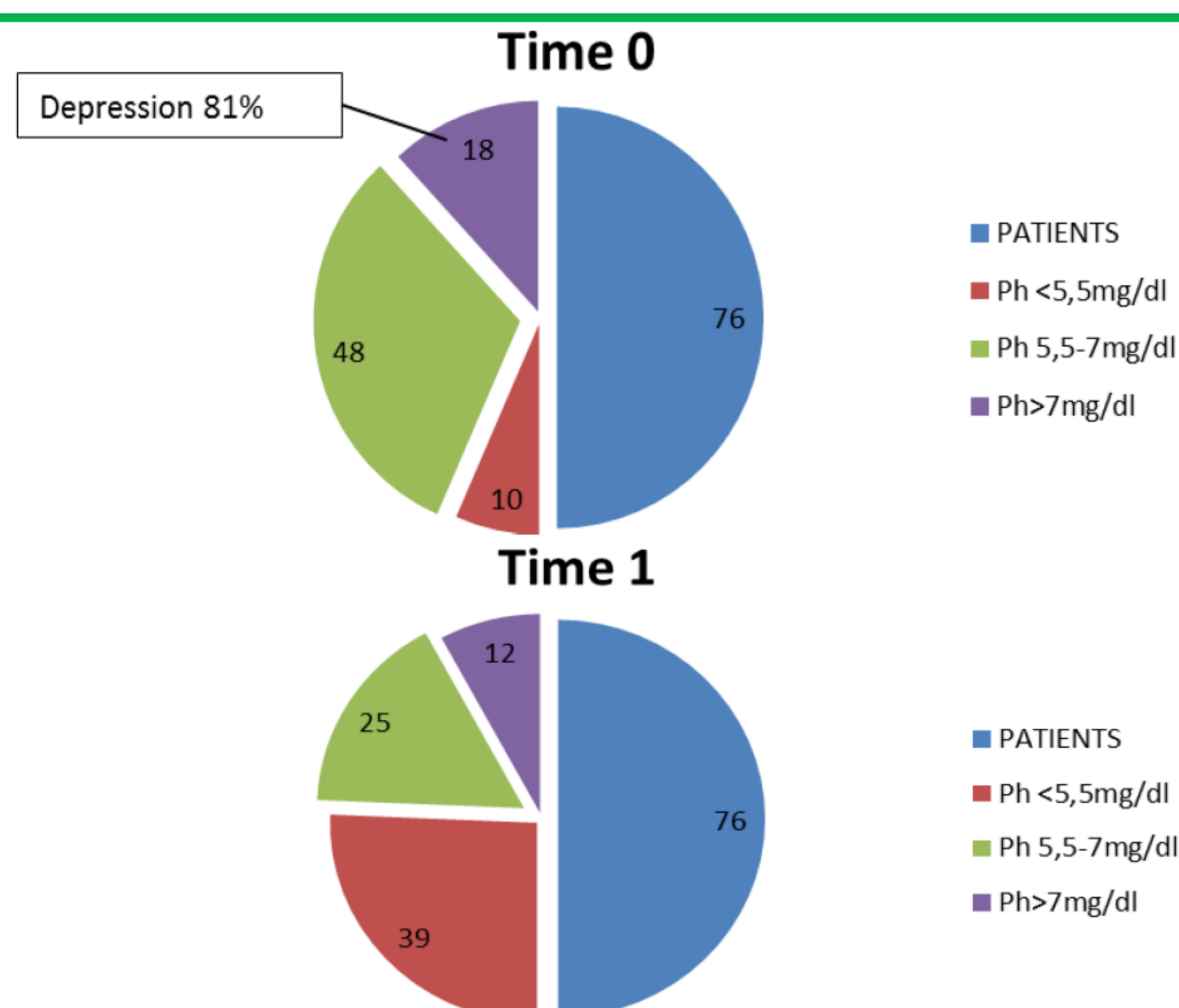
METHODS

We conducted an experimental analytical study for a period of 4 months (from June to September 2014) on a group of 76 non-diabetic patients, undergoing chronic hemodialysis. Concerning the sex and age, the study group was homogeneous. The patients were aged between 50 and 80 years.

At the beginning and end of the study patients were collected blood samples to check the value of serum phosphate and were applied Beck and Hamilton tests to assess cognitive disorders.

After the initial evaluation, they were recommended phosphorus binders drugs and a low phosphorus diet. Patients were reevaluated at the end of the study. Data was statistically analyzed.

CHARTS



RESULTS

Among the 76 patients who were included in the study, a serum phosphate value between 5.5 and 7 mg/dl can be noticed in 48(63%) cases.

18 patients(24%) show serum phosphate level higher than 7 mg/dl. Cognitive disorders are common in all patients with hyperphosphataemia but among the subgroup of patients with serum phosphate level higher than 7mg/dl depression is present in 81% of the cases ($p < 0.003$).

After 4 months of follow-up, 37 patients indicate high serum phosphate level. 12 patients included in this new group, present serum phosphorus level higher than 7 mg/dl. Following tests to assess cognitive disorders they are diagnosed with moderate or severe depression($p < 0.001$).

CONCLUSIONS

We notice that in case of non -diabetic hemodialysed patients elevated serum phosphate(> 7mg/dl) is associated with severe cognitive disorders - depression. Patients who did not follow the recommended diet presented serum phosphate value > 7mg/dl at the end of the study. Dietary compliance together with phosphorus chelating drugs help improving cognitive disorders in these patients.

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