

Low Dose Nicotinamide as an Adjunctive Therapy to Calcium Carbonate for Control of Hyperphosphatemia in Hemodialysis Patients

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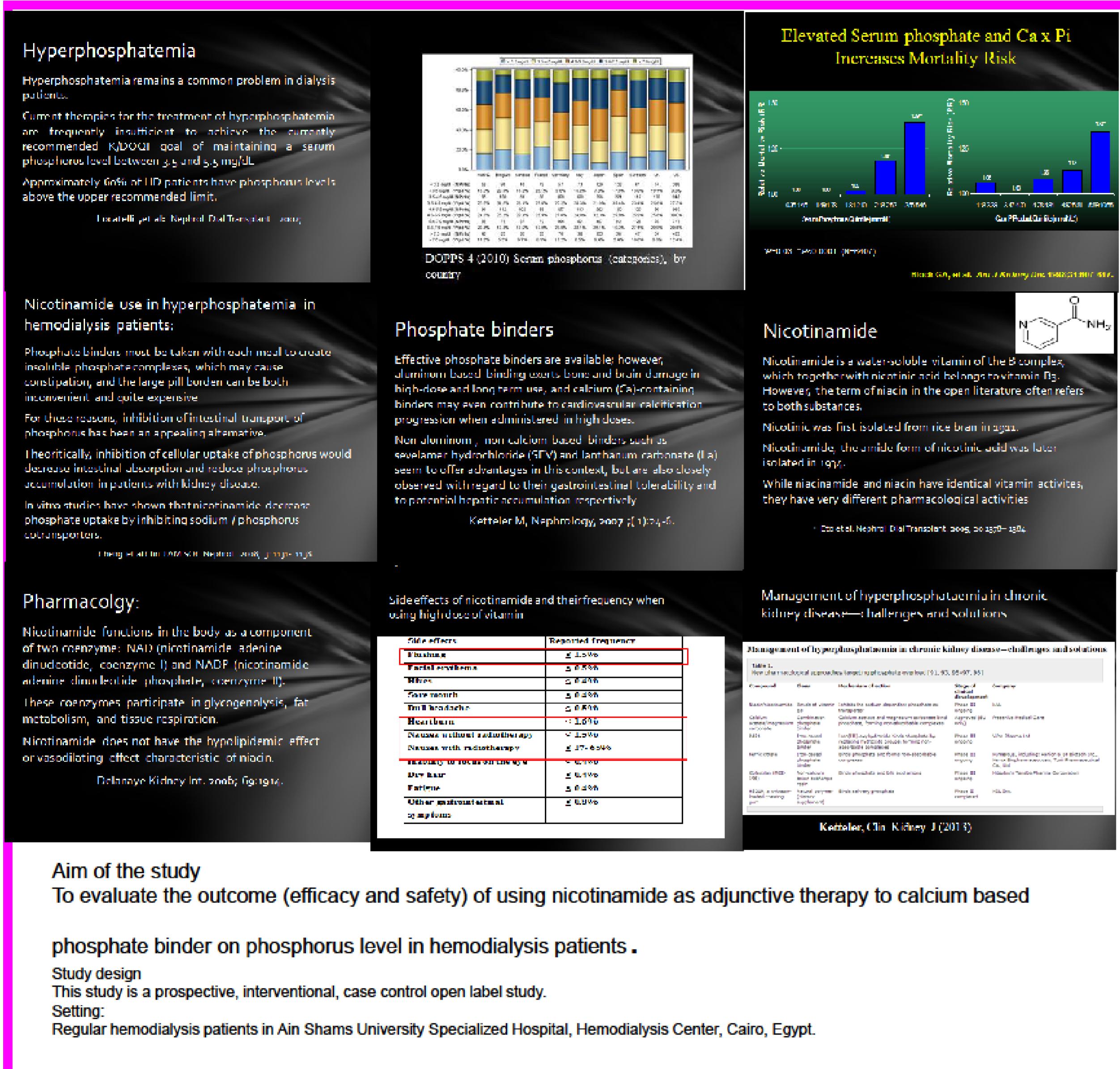
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Introduction & OBJECTIVES



Aim of the study
To evaluate the outcome (efficacy and safety) of using nicotinamide as adjunctive therapy to calcium based

phosphate binder on phosphorus level in hemodialysis patients.

Study design
This study is a prospective, interventional, case control open label study.

Setting:
Regular hemodialysis patients in Ain Shams University Specialized Hospital, Hemodialysis Center, Cairo, Egypt.

METHODS

Patients:

60 hemodialysis patients with a serum phosphorus level equal to or more than 5.0 mg/dl were enrolled in the study during the period from August 2010 to December 2010.

Patients was on thrice weekly 4 hours hemodialysis, using low flux polysulfone 1.3-1.6 M⁺ Dialyzer.

Patients:

Patients were categorized into two groups

Group I (Control group):

Thirty patient received calcium carbonate tablets in dose of 500 to 2000 mg three times daily.

Group II (Study group):

Thirty patients received calcium carbonate tablets in dose of 500 to 2000 mg three times daily and nicotinamide tablets in dose titrated up to 1000 mg day for eight weeks.

All medication prescribed for patients including vitamin D₃ and calcimimetics were continued at the same dosage throughout the study for both groups unless change were necessary for patient safety.

Inclusion criteria:

1. Patients on regular hemodialysis for more than three months
2. Stable dosage of calcium carbonate during the previous two months period.
3. Age above 21 years
4. Serum inorganic phosphorus level equal to or greater than 5.0 mg/dl.

Exclusion criteria:

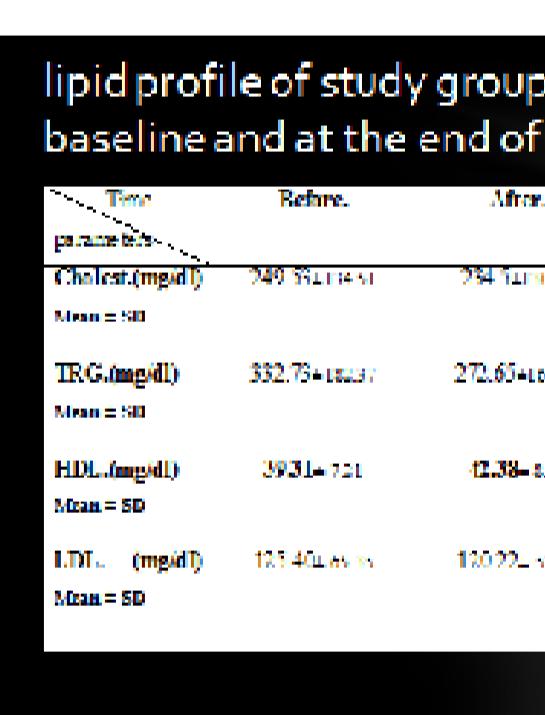
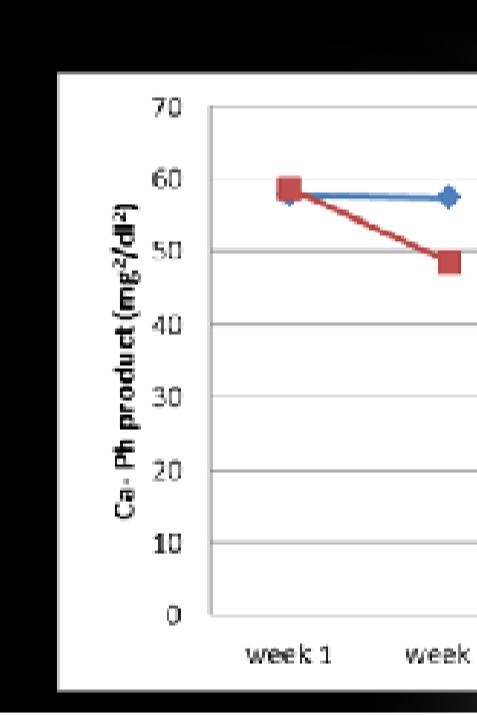
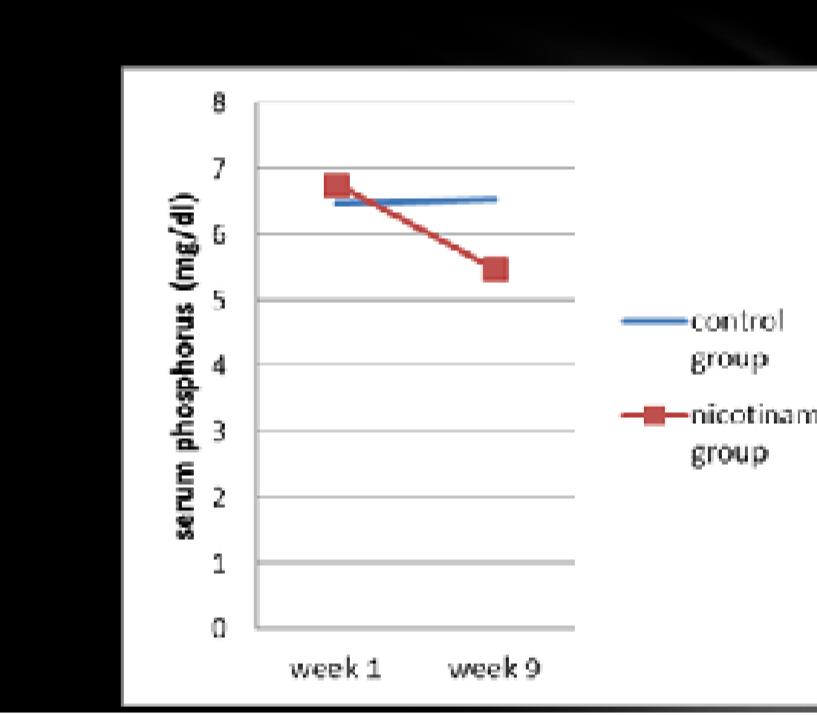
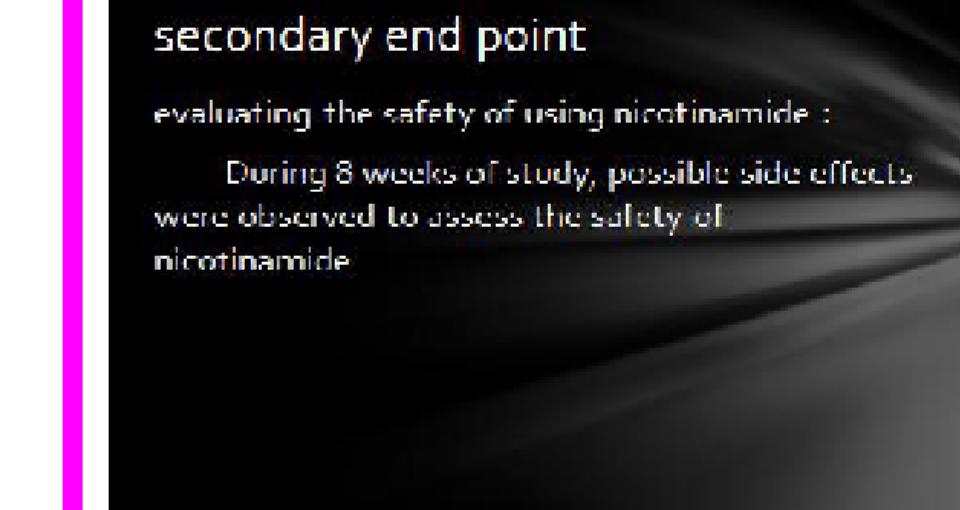
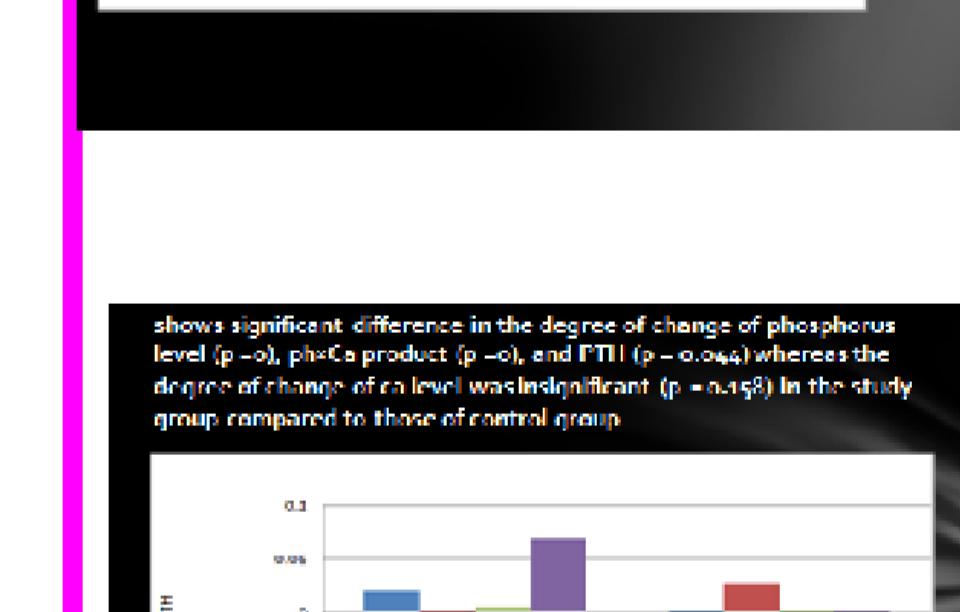
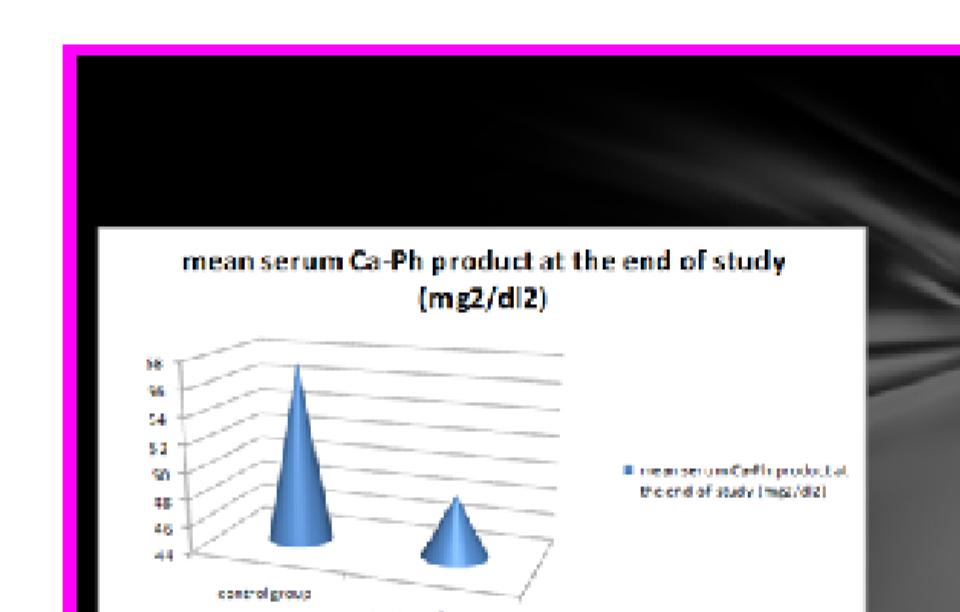
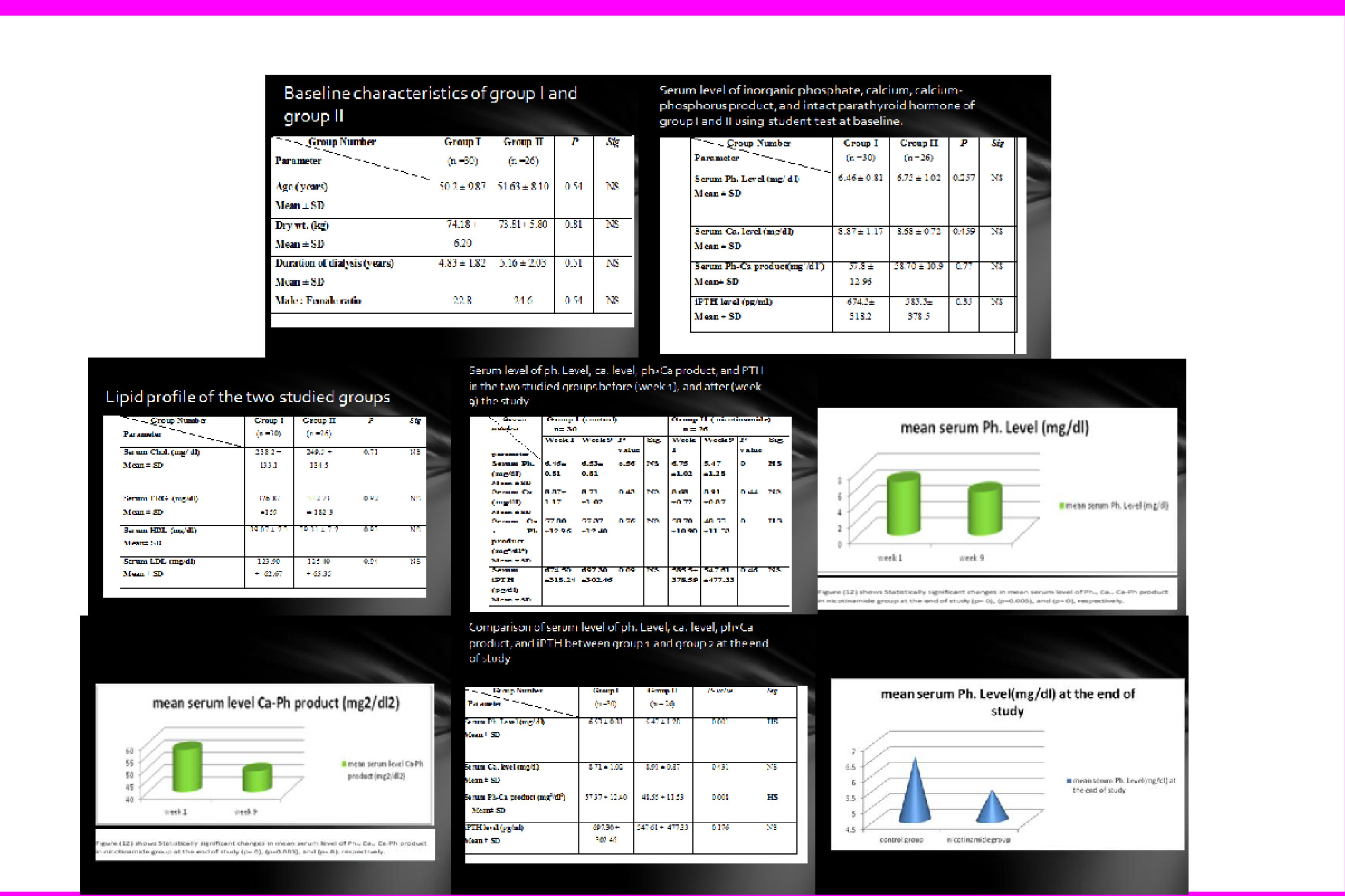
1. Pregnancy
2. History of liver disease
3. Active peptic ulcer disease
4. Patients on niacin therapy
5. non compliant patients.

Nicotinamide dosage titration:

Nicotinamide was administered at a starting dosage of one tablet (500 mg) daily for one week.

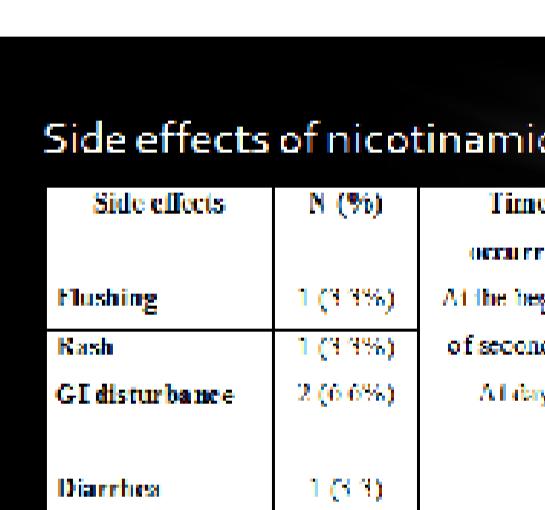
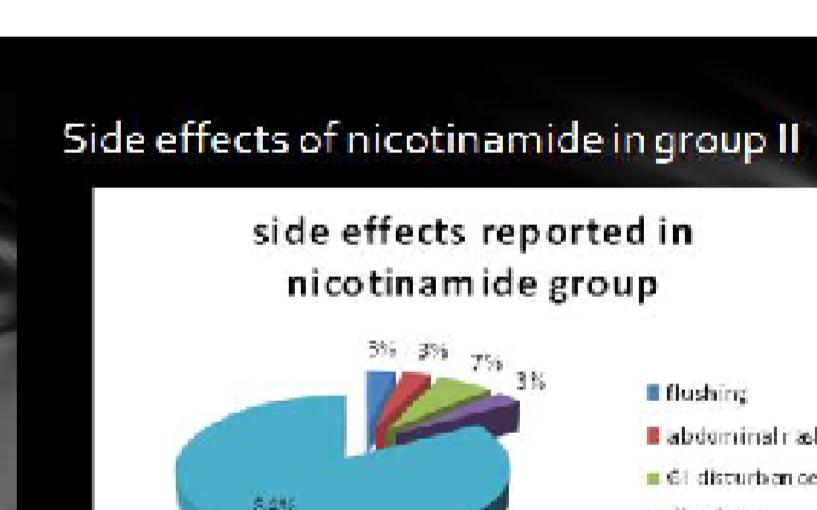
Then the dosage was increased to 1000 mg (two tablets) once daily at week two and continued till the end of the study.

RESULTS



secondary end point

evaluating the safety of using nicotinamide :
During 8 weeks of study, possible side effects were observed to assess the safety of nicotinamide



CONCLUSIONS

Conclusion

The use of low dose nicotinamide (1000 mg/d) is effective in controlling serum phosphorus when co-administered with calcium carbonate as a phosphate binder in hemodialysis patients.

It is cheap, and it has beneficial effect on lipid profile with mild potential side effects.

