SUMMARY

CHAPTER VI

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Megnesium is involved in a wide range of biological activities including some that may protect against the development of bronchial asthma and airflow obstruction.

Recently, intravenous magnesium sulfate may represent a beneficial adjunct therapy in patients with mild, moderate and severe asthma who show little improvement with B agonist.

The aim of this work was to evaluate the changes (if any) in plasma magnesium level and RBCs magnesium level during acute asthma exacerbation and in between the attacks in children.

This study included 50 children with bronchial asthma. Their ages ranged from 3 to 12 years. Twenty-five children were chosen during acute exacerbation of asthma from the emergency room and other 25 children were chosen in symptom free status during their follow up visits to the allergy clinic. Twenty-five healthy children wese chosen as control group. They were sex and age matched with

the studied groups and were free from any chronic illness or any acute respiratory tract infection.

All children were subjected to the following laboratory investigations:

- Plasma magnesium level.
- RBCs magnesium level.
- Total plasma protein.
- Plasma albumin.

The work revealed the following results:

- The mean plasma magnesium level in children during acute exacerbation of asthma was found to be significantly lower than healthy control group.
- 32% of children during acute exacerbation of asthma had plasma magnesium level below normal (hypomagnesemic).
- Plasma magnesium level in non-acute asthma children was insignificantly lower than control group and only 4% of those children had plasma magnesium level below normal.
- No significant difference was found between RBCs magnesium level in asthmatic and control children.
- No significant difference was observed in plasma or RBCs magnesium levels between males and females either in asthmatic or control children.

- No correlation between plasma magnesium level and frequency of attacks of asthma.
- As regards total plasma proteins, no significant difference was found in total plasma proteins of asthmatic children and healthy ones. Also levels of plasma albumin were insignificantly different.
- Positive significant correlation between plasma magnesium level and plasma albumin concentration in acute asthma children, non-acute asthma ones and healthy control.