SUMMARY & CONCLUSION
SUMMARY AND CONCLUSION

The present work was carried out to study the serum complement C3 and C4 level, serum IgE level, Absolute eosinophil count and lung capacity by spirometry in bronchial asthma.

The study was conducted in the allergic clinic, immunology and biochemistry laboratory, department of Paediatrics, M.L.B. Medical College, Jhansi over a period of 16 months from Nov., 1991 to Feb., 1993.

The present study comprised of 21 children (4 yrs to 13 yrs of age), which included 16 children of bronchial asthma and 5 healthy control cases.

Diagnosis was based on detailed history, clinical examination and relevant investigation. Emphasis was given to frequency of attacks in a year, age of onset of disease, precipitating factors, history of worm infestation and family history of allergy/bronchial asthma.

Haemoglobin, total leucocyte count, differential leucocyte count, erythrocyte sedimentation rate were done in all the cases. Absolute eosinophil count was calculated and stool examination was done for ova/cyst.
Serum complement C3, C4 and IgE were estimated in all the cases by single radial immuno-diffusion technique. Five children who did not have a personal or family history of allergic disorder and were free from intestinal parasitic infection served as control cases. IgE value could be estimated accurately between 920 IU/ml to 11,000 IU/ml.

The results of present study are summarized as follows:-

Family history of allergy was positive in all the cases of bronchial asthma. Age of onset was between 1 to 6 yrs in 75% cases of bronchial asthma. In the present study, it was observed that bronchial asthma was common in male as compared to female (3:1) children.

Blood counts in Bronchial asthma:
All the patients and healthy control cases had hemoglobin more than 9 gm percent, and total leucocyte count within the normal range. In cases of bronchial asthma, mean eosinophil count was 7% and ESR ranged between 5 to 56 mm in 1st hour with a mean of 27.3 mm in 1st hour.
Absolute eosinophil count:

Eosinophilia (AEC 7250/cmm) was present in 87.5% cases of bronchial asthma. None of the normal control cases had eosinophilia. Higher degree of eosinophilia (AEC 7500/cmm) was present 43.7% of asthmatic cases. None of the cases had intestinal parasitic infection. It was observed that highest degree of eosinophilia (mean eosinophil count 1 535/cmm) was present (5 cases) with more than five years duration of bronchial asthma.

Serum complement C3 and C4 level in bronchial asthma:

Mean C3 level (0.97 mg/ml) was appreciably lower, especially in male (0.95 mg/ml) asthmatics children than that observed in the control group (1.19 mg/ml). No difference could be found in mean C4 level between asthmatic (0.28 mg/ml) and normal control cases (0.28 mg/ml). No difference was found in the serum levels of complement C3 and C4, according to duration (more than or less than 5 years) or periodicity (seasonal or perennial) of asthma.
IgE in normal and Bronchial asthma children:

IgE level in all the control cases was ≤920 IU/ml with no history of atopy, intestinal parasitic infection and eosinophilia. Serum IgE level was high (7920 IU/ml) in 50% cases of bronchial asthma (8 out of 16 cases). High level ranged from 2550 IU/ml to 3860 IU/ml. All children of bronchial asthma had history of atopy. None of the cases had intestinal parasitic infection. Serum IgE level did not vary significantly with age. All the three cases of perennial bronchial asthma had raised IgE (7920 IU/ml). But, among seasonal asthma cases only five out of thirteen children had raised IgE levels. No difference was noted serum IgE level on the basis of duration of asthma. Higher IgE value in the present study was not associated with eosinophilia or history of atopy.

Peak flow had markedly decreased in all the cases of bronchial asthma at the time of attack. Following treatment peak flow increased in all the cases.