SUMMARY AND CONCLUSIONS

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The overall picture of byssinosis in Egypt is still uncertain . Many Egyptian investigators reported a high prevalence of byssinosis among cotton workers , while in various other surveys carried out in Egypt the disease was not observed .

A questionnaire on the characteristic symptoms of byssinosis and the measurement of ventilatory capacity and its change during the workshift have been useful in detecting workers who have been adversely affected by dust . Both methods depend on the cooperation of the workers . The medical follow up system must include objective criteria for establishing the diagnosis of byssinosis . The development of other physiological and laboratory tests is considered important for the early detection of reversible adverse effects of cotton dust exposure .

So , it was necessary to throw more light on the effect of exposure to cotton dust on the health of Egyptian workers and to investigate the role of cotton antigen in the etiology of cotton related symptoms or diseases .

The study was conducted in Esco company at Bahtim district in Kalioubia Governorate .

The study included two groups . The first one was the group exposed to cotton dust , which consisted of 125 workers randomly selected from the departments of bale breaking , opening and

scutching , mixing and carding . The second group consisted of 81 workers who were randomly selected , as controls , from the security and management departments .

Full clinical examination and measuring the pulmonary ventilatory functions before and after the workshift were carried out for both groups (in the control group , the pulmonary functions measuring was carried out only once) . Also , eosinophil count, serum total IgE , serum specific IgE to cotton antigen and skin test using cotton extract was carried out for both groups . Also , dust concentrations were measured in different locations of the cotton mill . The following were obtained :

1- The prvalence of chest symptoms was higher among the workers exposed to cotton dust than the controls .

2- The impact of dust concentration on the development of chest symptoms was very important because chest symptoms were more prevalent among workers in more dusty locations in the mill than among workers in less dusty locations .

3- Duration of exposure was very important in relation to chest symptoms , the longer the duration of exposure , the more prevalent the chest symptoms .

4- Exposure to cotton dust can lead to acute and chronic reduction in FEV_1 which were directly proportional to duration and level of exposure and prevalence of respiratory symptoms .

5- The titre of total IgE and specific IgE antibodies to cotton antigen in the serum of workers exposed to cotton dust was

not significantly different from controls . Also , it was not correlated with chest symptoms among those workers .

Finally , we can conclude that IgE immune response is not involved in the pathogenesis of chest symptoms related to cotton dust exposure , but allergic pathogenesis can not be excluded as other immune mechanisms may be involved .