SUMMARY AND CONCLUSION

Diarrhea is one of the most common disease in infants especially in developing countries. It is still the most common cause of morbidity and mortality in infants and early childhood.

For this reason, this work aimed to determine the incidence of rotavirus infection by using latex agglutination test, ELISA, and indirect immunofluorescent technique for detection of the most sensitive and reliable method for diagnosis of rotavirus.

This work was done on stool specimens of 350 infants and children under 2 years of age with acute diarrhea and with or without dehydration, they were 220 males and 130 females. The control group (54 infants) was normal infants, they were 36 males and 18 females, all the studied groups were from Out-Patient Clinics and Rehydration Centers of Benha and Zagazig University Hospitals from December 1991 through November 1992.

Rotavirus antigen was detected in stools by latex agglutination method in 77(22%) out of 350 cases and in 4 (7.4%) of 54 control subjects and the difference was statistically significant ($P<0.001$).

Using ELISA method rotavirus antigen was detected in 85 (24.3%) out of 350 cases and 5 (9.3%) out of 54 control subjects with a significant difference ($P<0.001$).

Also, Using indirect immunofluorescent technique rotavirus antigen was detected in 89 (25.4%) out of 350 cases and 7 (12.9%) out of 54 control subjects and the difference was statistically significant ($P < 0.01$).

The sensitivity, specificity and predictive values of positive and negative results of ELISA method were 87.64%, 97.32%, 91.77% and 95.85% respectively. The sensitivity, specificity and predictive values of positive and negative results of latex agglutination test were 88.31%, 92.30%, 76.41% and 96.55%. Latex agglutination method proved to be more sensitive, but less specific than ELISA method.

Subgroup II was the predominant (58.2%) and subgroup I was (41.6%) of positive cases to rotavirus, and the difference was statistically significant ($P<0.05$).

The relation between breast feeding and artificial feeding and the prevelance of rotavirus infection, the highest level of infection was found to be in artificial fed infants with the incidence of 40 (35%) and lower in breast feeding 19 (16.8%). Rotavirus infection was more frequent to occur in artificially fed infants than in breast fed infants and the P value was highly significant ($P<0.001$).

The prevelance of rotavirus infection according to age group, revealed that the age group less than 6 months had the highest level of rotavirus infection in both cases (38.2%) and control subjects (16.6%) and the P value of cases and control in this age group was significant ($P < 0.05$).

As regards the distribution of rotavirus antigen in diarrheal cases according to the sex, rotavirus was detected in 54 (24.5%) males and in 35 (26.9%) females.

The P value for males and females was not significant (P>0.05), but P value for male cases and control group was significant(P>0.05).

The seasonal incidence of rotavirus gastroenteritis in diarrheal cases had the highest peak during winter season with the incidence of 45 (50.6%), while the incidence of infection decreased in summer 17 (19.1%), and P value was highly significant (P<0.001).

Rotavirus infection was most common in rural areas (27.8%) than urban (22%), but P value was not significant (P>0.05). Concerning the degree of dehydration and their association with rotavirus infection, was detected, the rotavirus was most commonly associated with moderate dehydration (9%).

It was concluded that diagnosis of rotavirus antigen in diarrheal stool gastroenteritis can be achieved by the indirect immunofluorescent after performing tissue culture of the rotavirus which is the most sensitive method compared with latex agglutination and ELISA method, but it is difficult to perform as a screening method as it needs more time and experience and it is expensive.

On the other hand ELISA and latex agglutination methods are less expensive, simple and do not need experienced personel for their use. They are also useful in screening a large number of cases in one sitting.

Encouragement must be directed to breast feeding more and more among Egyptian mothers because it is the best prophylactic and cheap measure against rotavirus gastroenteritis in particular and other infectious diarrhea in general.