PREVALENCE OF ANTI RUBELLA ANTIBODIES IN PREGNANT AND PRE PUBERTAL FEMALES A PRELIMINARY STUDY

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Abstract

Prevalence of anti Rubella antibodies was determined using ELISA technique. Seventy seven percent pregnant and 51% pre-pubertal females showed evidence of immunity against rubella while 23% pregnant females were susceptible to rubella infection. There is a need to start rubella immunization programme for girls, to lower the incidence of congenital Rubella (JPMA 37: 6, 1987).

INTRODUCTION

Rubella or German measles is usually a benign febrile disease, but when it occurs in preg. nant women it leads to severe congenital malfor. mations in the foetus. The severity of congenital jtibella has prompted efforts to prevent the disease by active or passive immunization. Knowledge of rubella antibody titers of female populations at various ages is essential for an effective rubella immunization programme.

This preliminary study was conducted to ascertain the prevalence of rubella antibodies in pregnant and pre-pubertal female population in Rawalpindi and Islamabad.

MATERIAL AND METHODS

Eightyone pregnant females were included in the study. The volunteers were attending a local maternity clinic. Most of the women belonged to low socio-economic group.

Samples from 35 girls, ages ranging from 7-13 years were also collected. Most of the girls came from urban area and belonged to low socioeconomic group.

Enzyme linked immuno sorbent assay (ELISA) was performed using rubella antigen and control antigen coated plates (Behring-Werke A.G.). HRP conjugated sheep anti human IgG was prepared as described by Catty and Raykundalia[1]. Quality control on the antiserum and the conjugate was performed as described by the authors. The technique for performing ELISA was given by manufacturers. Positive and negative control sera were used with each plate.

RESULTS AND DISCUSSION

Of 81 pregnant females studied 63 (77%) showed immunity against rubella while 18 (23%) were susceptible to infection. Similarly of 35 pre pubertal girls, 18 (51%) were immune to rubella infection. Sero-conversion in about 22% cases occurs during the reproductive years of life. Information concerning the level of immunity against rubella is scanty in developing countries including Pakistan. In a W.H.O. sponsored study conducted in Argentina and Brazil, it was found that 80% of the females of child bearing age had hemagglutinating antibodies against rubella.[2] In Angolan population it was seen that 73% of prepubertal females and 71% girls between 15-19 years of age had antibodies against

rubella.[3] In a recent survey in Nigeria it was found that 97% of pregnant women and 79% female university students showed evidence of immunity to rubella by hemagglutination inhibition.[4] Findings of the present study suggests that there is a need to immunize young girls against rubella to minimize deformities caused by congenital rubella. After the successful implementation of E.P.I. programme for other diseases, rubella immunization programme should be launched. It is also recommended that more surveys should be conducted to ascertain the prevalence of rubella infection in different socioeconomic groups of diversified geographical areas of the country.

REFERENCES

1. Catty, D., Raykundalia, C. and Houba, V. W.H.O.Bench manual of technique for immunological and 83:1.
2. Dowdte, W.R., Ferreira, W., Desalles-Gomes, L.F., King, D., Kourany, M., Mada Lengotia, J., Pearson, E., Swanston, W.H., Tosi, H.C. and Wikhes, A.M. W.H.O.collaborative study on the sero-epidemiology of Rubella in Caribbean and Middle and South American population in 1968. Bull. WHO., 1970; 42, 419-422.
3. Casmiro, C., Escudeiro, M., Wanda, C., Ferreira,W. and Armmdo R. Filipe. Rubella antibody status in an Angolan population. Am. J. Trop. Med. Hyg., 1975; 24 : 1043.
4. Paul, M.O. and Paul, B.D. Comparative seroepidemiologic observations of rubella infection in pregnant women and female university students.J. Hyg. Epidemiol. Microbial. Immunol., 1983; 27: 179.