RUBELLA CASES MISTAKEN FOR DENGUE FEVER

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SYNOPSIS

7.8% (8/102) of paired sera sent for dengue investigation turned out to be positive for rubella instead. Dual infection of dengue with rubella was observed in 3.8% (4/104) cases.

The clinical features and the serious implications of misdiagnosis of rubella were discussed.

INTRODUCTION

Rubella and dengue fever are similar clinically in that they both can cause fever, rash and lymphadenopathy. This being so, the detection of rubella is often missed especially in outbreaks of dengue fever with possible serious consequences if the patient happens to be a pregnant woman.

The objective of this paper is to determine what proportion of dengue-suspected cases is, in fact, rubella in this study.

MATERIALS AND METHODS

Paired, acute and convalescent, sera of febrile patients were examined for dengue haemagglutinins. Sera which were negative as well as those which showed significant rises in HI titre against any of the four dengue antigens were tested for rubella haemagglutinins.

The micro-HI test was used for dengue. The dengue antigens types 1 to 4 were by the sucrose-acetone method of Clarke and Casals. The sera were treated by the acetone-extraction methods.

Rubella haemagglutinins were estimated with the Rubella Test Kit designed by Behringwerke AG. Sera were treated by maganous chloride-heparin for the removal of non-specific inhibitors (Cooper et al., 1969).

In both tests a significant 4-fold rise in antibody titre in the paired sera was the criterion for positivity.

RESULTS

Of 102 dengue-negative sera tested, 8 (7.8%) had a significant rise in rubella HI antibody titre. Of 104 cases positive for dengue, 4 (3.8%) were also positive for rubella. Of the total 12 rubella cases, 4 were women of child-bearing age.

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The clinical features of the positive rubella cases as given in the clinical data form which accompanied the specimens were recorded. All but one case (91.0%) had fever. Rash was observed in all but 2 cases (83.3%) one of whom was a 23 year old woman, and haemorrhagic phenomenon was noted in 33.3% with 41.7% cases showing a positive tourniquet test. Lymphadenopathy was observed and recorded in only 1 case (8.3%).

DISCUSSION

Three main reasons could be suggested for the physicians concerned diagnosing the 12 rubella cases as dengue fever. Firstly, the presence of haemorrhagic phenomenon and the absence of rash in some of these cases which might have turned their attention away from rubella; secondly, the possible absence of obvious signs of pregnancy in the female patients of child-bearing age examined, of whom 3 out 4 had rash; and thirdly, the concidence of an outbreak of dengue at the time of investigation.

The fact that rubella may occur without a rash is well established (Krugman, 1953; Hillenbrand, 1956). Also, haemorrhagic phenomenon due to thrombocytopenia may be seen in both congenital and post-natal forms of rubella (Wallace, 1963). Lymphadenopathy, which was noted in only one case, probably because it was not looked for, is almost always present in rubella and may develop a week or more before the rash which usually lasts for 2 to 3 days only. Enlargement of the posterior cervical lymph nodes is characteristic, and involvement of the preauricular, the postauricular and the suboccipital nodes is very common though not uniformly present. In dengue, general lymphadenopathy is also very common and may contribute towards the difficulty in differentiating it from rubella.

Generally, it is advisable when investigating PUO in a woman of child-bearing age, (whether obviously pregnant or not) to suspect rubella if she has fever, (which may be inconspicuous) rash and lymphadenopathy, with or without haemorrhagic symptoms, even before considering other febrile illnesses.

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