Reliability of varicella history in children and adolescents

Question under study: Only limited data are available regarding the reliability of the varicella zoster virus (VZV) history in children and adolescents. Our goal was to determine positive and negative predictive values of varicella history in a prospective cross-sectional study. Methods: Patients 1-18 years of age who were hospitalised in our institution between 1999 and 2000 were eligible for participation when a blood specimen was taken for any medical reason. Patients with current varicella, immunodeficiency, immunoglobulin treatment in the previous 6 months, or significant language barriers were excluded. After informed consent had been obtained, parents were asked whether their child had a history of varicella (categorized as definite, probable, possible, negative or unknown). Anti-VZV-IgG antibodies were then tested by ELISA (Enzygnost (R)). If the ELISA result was indeterminate, the specimen was analysed by fluorescent-antibody staining of membrane antigen in VZV-infected cells (FAMA), the serological gold standard. Results: 449 patients (mean age 6.4 years, median 5.4 years) were enrolled. History of varicella was definite in 234 (52.1%), positive for VZV antibodies. Seroprevalence was 25 in 1-4 year olds (group 1, n = 167), 5-8 year olds (group 2, n = 136) and 9-18 year olds (group 3, n = 146), respectively. The positive predictive value of a definite history of varicella was 98 CI: 96-100 (93 respectively). The negative predictive value was 85 80-90), decreasing with age (group 1: 97 26 Conclusions: The positive predictive value of a history of varicella is high in children and adolescents. In countries where universal immunization against varicella is not recommended, selectively immunizing adolescents with a negative history can reduce the rate of susceptible individuals efficiently.