

Analysis of the detection of Epstein-Barr Virus (EBV) DNA of specimens from different sources in Beijing, China

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Abstract

Objective: To explore the positivity of EBV DNA from different disease departments and different sample types in Beijing, China and to help clinicians to choose the appropriate specimens for detection. **Methods:** A retrospective study was performed on EBV DNA detection by quantitative real time PCR (qPCR) between 2015 and 2021. Data from total 5494 samples were collected. According to the results of EBV DNA detection, the positivity was analyzed by the age, gender, the types of specimens and different clinical departments respectively. **Results:** Of 5494 samples, the positivity detection rate of EBV DNA was 13.65%. The positivity of EBV DNA in male patient was higher than that of female patient samples (14.87% vs 12.07%, $p=0.003$). The positivity of EBV DNA in adult samples was higher than that of pediatric samples (14.58% vs 11.71%, $p=0.004$). Pediatrics at 3-6 years had the highest EBV DNA positivity rate (17.77%) among all pediatric samples. Adults aged 40-50 years has the highest EBV DNA positivity rate (17.50%) among all adult samples. Pediatrics samples from department of Pediatric Hematology had the highest EBV DNA positivity rate (36.36%), followed by that of Pediatric Infection Department (23.23%). Among adult group, the EBV DNA positivity was detected highest in department of Hematology (26.27%), followed by department of Dermatology (21.05%). Of all samples, EBV DNA was detected positively mostly in lymphocyte (48.04%) and respiratory tract specimens (36.00%), which were much higher than those of serum samples (5.58%) ($p<0.05$). **Conclusions:** EBV DNA test should pay more attention in 3-6 years children and 40-50 years adults, especially patients with hematological diseases. Besides, in order to improve the detection rate of EBV DNA, specimens such as lymphocyte and respiratory tract specimens may be collected as a priority selection according to disease.

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