Frequency of transmission of human parvovirus B19 infection by fibrin sealant used during thoracic surgery.

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Abstract:

Background. Fibrin sealant is used in many kinds of surgical procedures. Although pasteurization is insufficient to remove human parvovirus (HPV) B19 from this plasma-derived product, the frequency of HPV B19 infection transmitted by its use has never been known. Methods. Blood samples of 85 patients more than 20 years of age who had undergone pulmonary resection with fibrin sealant were obtained before and 12, 24, and 48 weeks after surgery. Anti-HPV B19 antibody IgG (HPV B19 IgG) and HPV B19 DNA were detected with these samples. Results. In 56 (65.9%) of 85 patients, blood samples obtained before operation were positive for HPV B19 IgG. In these 56 patients, blood samples obtained 12 to 48 weeks after surgery were all negative for HPV B19 DNA by polymerase chain reaction (PCR). In 6 (20.7%) of 29 patients whose blood samples were negative for HPV B19 IgG before surgery, blood samples obtained 12 to 48 weeks after surgery were positive for HPV B19 DNA by PCR and also positive for HPV B19 IgG. In 5 of these 6 patients reticulocyte counts decreased to less than 10 x 10⁹/l 12 to 20 days after surgery. Conclusions. Epidemiologic evidence suggests that more than 20% uninfected persons were subsequently infected with HPV B19 by use of fibrin sealant during surgery.