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Photodynamic decontamination of red blood cell concentrates: Magnetic field effects

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The effect of the magnetic field on photosensitized virus inactivation in blood with a silicon phthalocyanine (Pc 4) and on red blood cell (RBC) damage was studied, an attempt to enhance the specificity o this treatment for blood decontamination. There was no effect of the magnetic field (0.1 T) on the rate of vesicular stomatitis virus (VSV) inactivation. RBC damage, assayed as hemolysis during storage, was reduced to a small but significant extent when treatment was in a magnetic field in the presence of scavengers of reactive oxygen species. In the absence of scavengers the magnetic field effect was much larger. The differential effect of magnetic field on VSV inactivation and RBC damage is ingen vs. free radicals, respectively.