Performance evaluation of the application of body fluids on the Sysmex XE-2100 series automated hematology analyzer.

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Body fluid analysis on the Sysmex XE-2100 series automated hematology analyzer was evaluated at 4 hospitals (Baylor University Medical Center, Dallas, TX; St. John's Mercy, St. Louis, MO; Carle Clinic, Urbana, IL; and ACL Laboratories, West Allis, WI, USA). The total nucleated cell and red blood cell (RBC) counts of 493 samples were obtained with the Sysmex XE-2100 automated hematology analyzer and compared with results obtained by manual chamber counting. Seventy-eight samples were not suitable for evaluation because of the presence of clots, crystals, error messages related to white blood cell (WBC) and RBC parameters, and so on. Pearson correlation coefficients for the WBC parameter were 0.99 for cerebrospinal fluid, 0.95 for serous fluid, 0.99 for synovial fluid, and 0.99 for samples of combined body fluids. Ninety-six samples were used to compare RBC counting methods because these samples had RBC counts greater than 0.01 10 6/mL. The Pearson correlation coefficients for the RBC parameter were 0.96 for cerebrospinal fluid, 0.97 for serous fluid, 0.97 for synovial fluid, and 0.97 for samples of combined body fluids. Carryover, precision, and linearity studies also performed for WBC and RBC counts yielded very good results.