

Q&A column, 5/17

Editor: Frederick L. Kiechle, MD, PhD

Submit your pathology-related question for reply by appropriate medical consultants. CAP TODAY will make every effort to answer all relevant questions. However, those questions that are not of general interest may not receive a reply. For your question to be considered, you must include your name and address; this information will be omitted if your question is published in CAP TODAY.

[Submit a Question](#)

Q. Is there any medical reason why a physician would ask the lab to run a complete blood count on cord blood?

A. Although chemistry testing and blood typing from umbilical cord specimens are routine, hematology testing is not. Nevertheless, a number of studies were undertaken to evaluate and validate the utility of umbilical cord blood testing for hematology purposes.¹ Umbilical cord blood CBCs are especially attractive in the context of low or very low birthweight neonates, from whom sampling of even small peripheral blood volumes for testing might be detrimental to overall vascular homeostasis.¹

A major caveat to routine umbilical cord blood hematology testing is the lack of well-established reference ranges and the absence of proficiency testing for quality assurance. Indeed, the CAP cannot provide validation or verification of hematology testing performed on umbilical cord blood specimens. This lack of QC/QA oversight presents challenges to laboratories that face requests from clinicians to test specimens that are outside of the test menu norm for that lab. When faced with such scenarios in our lab, I will typically ask my staff to perform the test and communicate the results to me so that I might directly pass on the data to the clinician(s). I make note to the clinical staff that these results do not have accompanying reference ranges, that the test methods have not been validated, and therefore the results will not be included in the clinical record. I do, however, make certain to log the results and my discussions with clinicians in the laboratory information system for potential future reference.

1. Carroll PD, Christensen RD. New and underutilized uses of umbilical cord blood in neonatal care. *Matern Health Neonatol Perinatol*. 2015;1:16.

Etienne Mahe, MD, MSc, Pathologist, Division of Hematology Department of Pathology and Laboratory Medicine, University of Calgary, Alberta, Canada
Member, CAP Hematology/Clinical Microscopy Resource Committee

[hr]

Q. Does CAP checklist requirement HEM.23050 treat automated and manual differentials equally? That is, does the recommendation to report absolute counts apply also to manual differentials or only to automated differentials?

A. Reference intervals, as applicable, are required to be reported with the patient result. Regarding HEM.23050 and white blood cell differential counts, reporting a reference interval would be applicable whether the WBC differential count is performed by the automated method or manual method. The CAP recommends that laboratories report absolute counts along with their corresponding reference intervals, and it discourages the reporting of percent cell counts only on WBC differentials. Individual percent values regarded as normal, high, or low may be discordant with the corresponding absolute values, which may potentially lead to a misinterpretation of CBC data.

Joan Rose, MT(ASCP)SH, Technical Team Lead, CAP Accreditation Programs, College of American Pathologists, Northfield, Ill.

[hr]

Q. What is the next step in resolving platelet clumping when it occurs in a citrate tube also?

A. Pseudothrombocytopenia can occur in a variety of conditions and has been associated with EDTA-dependent agglutinins, other cold agglutinins, multiple myeloma, infections, anticardiolipin antibodies, high immunoglobulin levels, and abciximab therapy. EDTA-associated pseudothrombocytopenia is the most common cause. Evaluation of pseudothrombocytopenia includes evaluation of a peripheral blood smear for evidence of platelet clumping or platelet binding to neutrophils (platelet satellitism). Alternative anticoagulants can be tried, including citrate and heparin. If platelet clumping still occurs, blood can be collected directly from a fingerstick into a diluent for manual counting and for direct preparation of smears.

Nakashima MO, Kottke-Marchant K. Platelet testing. In: Kottke-Marchant K, ed. An Algorithmic Approach to Hemostasis Testing. 2nd ed. Northfield, Ill.: CAP Press; 2016:101.

Wayne L. Chandler, MD, Division Chief, Laboratory Medicine, Department of Laboratories, Seattle Children's Hospital

Member, CAP Coagulation Resource Committee

[hr]

Dr. Kiechle is a consultant, clinical pathology, Cooper City, Fla. Use the reader service card to submit your inquiries, or address them to Sherrie Rice, CAP TODAY, 325 Waukegan Road, Northfield, IL 60093; srice@cap.org. Those questions that are of general interest will be answered.