HEALTHLAB HAPPENINGS

SUMMER 2014

Weak D Vs. Partial D Rh Typing Discrepancies

Blood Bank

The decision of whether or not to give prenatal RhIg is a decision that many of our clients face with their patient population. Suppose a patient is typed at another facility as D negative, and is then typed at HealthLab as D positive? How can this happen? The first thing to understand is that the D antigen is composed of many parts. Historically, the D antigen was referred to as a mosaic. In most of the population, when a patient types as D positive, this implies that the mosaic is complete, and all parts of the antigen are accounted for. However, when there is a part of the mosaic missing, this can lead to weak or negative reactions. Depending on the methodology that is being used, some reagents may react with the pieces of the D mosaic that are expressed while some may not. This type of D antigen is referred to as a 'partial D' (formerly mosaic D), and these individuals are capable of making anti-D to the parts of the mosaic they do not possess. The second form of depressed D typing is referred to as a 'weak D' (formerly Du). This form of the antigen implies that all of the pieces of the mosaic are present, however there are fewer antigen sites on the red cell for reagents to react. Again, this may present as weak or possibly negative reactions. These individuals CANNOT make anti-D since they possess all parts of the mosaic.

Some facilities use what is known as the weak D Test. The weak D test is not an orderable test, and is performed when the laboratory determines it is indicated. The test is used to detect the weak D or partial D antigen. While it will not differentiate between the two, it does provide a longer incubation time than the regular Rh test and incorporates an immunoglobulin phase to detect any weaker reactions. Some facilities may choose to report a patient as Rh Negative, weak D positive. Other facilities will call a patient Rh positive based on a positive weak D test result. You can certainly begin to see when the discrepancies can occur!

Here at HealthLab, whenever a weak reaction with our anti-D reagent is observed, we require that it is repeated to confirm weak reactivity (either by a repeat test, or a weak D test, based on the discretion of the tech and/or supervisor). If we observe reactivity 2+ or greater with the Rh test, we will report the blood type out as positive. If we are seeing very weak reaction with the Rh test and move on to the weak D test and this is positive, we will result the patient as 'ABO Rh Weak Positive' and append the comment that states 'Patient types as weakly reactive with the anti-D reagent. A weak D test was performed to confirm the reaction. This pattern of reactions can be due to either a weak D antigen or a partial D antigen. Molecular testing may be performed to differentiate between antigens if clinically warranted. Because we are unable to determine the cause of weak reacting D type, we strongly suggest administering rhogam to prevent the development of a partial D antibody.' If there is ever a question about Rh typing, we are happy to repeat the testing on the specimen we have, provided it is within the stability window.

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HealthLab

For Further Reference:

Reid M. The Rh Antigen D: A Review for Clinicians. American Blood Center Blood Bulletin. 2008 Vol.10 Issue 1.

Spotlight On:

Positive Patient Identification

Throughout health care, the failure to correctly identify patients and match their personal information to an intended clinical intervention continues to result in errors in patient identification, medications and transfusions given, and diagnostic testing and surgical procedures performed. Health care workers can avoid preventable errors by following the CLSI's GP33 standard for properly identifying patients before specimen collection. The patient should be asked to state his or her full legal name and date of birth, as well as to spell his or her last name. A patient must never be asked to confirm his or her name and/or date of birth, as someone suffering from anxiety, hearing loss, or other disabilities may respond incorrectly without understanding what was asked. The stated information should then be compared with information found on identification bracelets, test requisitions and labels. Specimens should not be collected until all possible discrepancies are resolved. Specimens should be labeled in front of patients, who, if able, should verify each specimen collected is labeled with the correct information. If patients are unable to participate in this step, the information should be compared with their attached wristband or test requisition.

Lab Accreditations and Certifications

For offices required to prove documentation of HealthLab's accreditation, certificates from the College of American Pathologists (CAP) and Centers for Medicare & Medicaid Services Clinical Laboratory Improvement Amendments (CLIA), please call Client Services at 630.933.2633 and we will be happy to fax them to you. TTY for the hearing impaired 630.933.4833. Copies are also located on our website: http://www.healthlabtesting.com/Services/Accreditations.aspx

FAQ

MRSA Screen Culture (2137096) vs. MRSA NAT Nasal Screen (2137761)

In most healthcare facilities, testing is performed to detect individuals who carry Methicillin resistant Staphylococcus aureus (MRSA). Detecting and isolating carriers is an important infection control technique used in order to prevent MRSA infections from developing during surgery or hospitalization. At HealthLab, MRSA can be detected in two ways: culture or nucleic acid testing (NAT, sometimes called PCR). Here are the basic differences between the two:

CULTURE

- Collected using culture swab
- Produces isolates available for further susceptibility testing (not routinely performed, but available upon request)
- Methicillin susceptible Staph aureus (MSSA) can be detected
- Chromagar and non-specific agar plates used
- MRSA will appear as blue colonies on Chromagar
- Longer turn-around time
- If no growth is present at 24 hours, plates will be incubated an additional 24 hours to ensure negative result

NAT

- Collected using double culture swab sent in liquid Stuart's medium (both swabs must be used and sent or test will be canceled)
- Greater sensitivity (detects a lower number of organisms)
- Doesn't require living organisms
- Results available faster; test run in morning and evening daily
- Will NOT detect MSSA
- No isolates available for susceptibility testing

Chromagar plates and Cepheid MRSA NAT are FDA approved for nasal swabs only. MRSA screen cultures can be performed on other body sites using other plated mediums, if body site is indicated when ordering the test.

New Process for HIV Testing

More than two years ago HealthLab began performing HIV testing with a new fourth generation test which detects antibodies to HIV-1 and HIV-2 as well as the p24 antigen. The addition of the p24 antigen testing has improved the detection of HIV infections and tests for prior exposure to either HIV-1 or HIV-2. This test improves sensitivity and provides for earlier detection than previous assays which detected antibodies only.

New guidelines have now been published by the Centers for Disease Control and Prevention that standardize the laboratory procedure for testing, confirming, and reporting. A repeatedly positive result with our 4th generation test will be followed by testing with an HIV-1/HIV-2 antibody differentiation immunoassay. This assay replaces Western blot, which has been the standard test for confirmation. Positive results with this assay are reported with no additional testing to differentiate between HIV-1 or HIV-2 infection. If the antibody differentiation assay is negative the sample will be tested for HIV-1 RNA. If this test is positive it will be reported as an acute HIV-1 infection. If negative an HIV-1 infection is unlikely and no additional testing will be performed, but HIV-2 DNA testing should be considered if clinically indicated.

Due to the new testing algorithm, the volume quantities required for testing may change.

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*In the spirit of keeping you well-informed, the physicians involved in this program are neither agents nor employees of Cadence health or any of its affiliate organizations, including HealthLab. These physicians have selected our facilities as the place where they want to treat and care for their private patients.

Contact Information

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Saturday:	7:30 am to 5:00 pm
Sunday:	8 am to 12 pm