

Clinical Pathology Abstracts, 10/15

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Impact of a rapid respiratory panel test on patient outcomes

Studies have examined the impact of polymerase chain reaction tests on patient outcomes. Rapid detection in microbiology and virology allows more appropriate treatment sooner. This, in turn, can reduce hospital length of stay for patients with respiratory pathogens and may generate hospital savings. The authors investigated whether implementing BioFire Diagnostics' FilmArray rapid respiratory panel, with a shorter time to the test result and expanded panel, results in a difference in outcomes for children admitted to the hospital with an acute respiratory infection. Patient outcomes were compared before implementing the rapid respiratory panel versus after implementing it in patients three months or older who had an acute respiratory illness. The panel tested for respiratory syncytial virus, influenza A and B, parainfluenza 1 through 4, human metapneumovirus, adenovirus, rhinovirus/enterovirus, and coronavirus NL62. The results showed that after implementing the rapid respiratory panel, the mean time to the test result was shorter and the percentage of patients with a result in the emergency room was greater. Of interest, the duration of antibiotic use was shorter after the panel was implemented and was dependent on receiving test results within four hours. The authors concluded that the rapid respiratory panel was shown to decrease the duration of antibiotic use, length of inpatient hospital stay, and time in isolation. The next steps will include development of practice guidelines based on these results to ensure the most efficient implementation of this testing strategy.

Rogers BB, Shankar P, Jerris RC, et al. Impact of a rapid respiratory panel test on patient outcomes. *Arch Pathol Lab Med*. 2015;139:636-641.

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Neutropenia in congenital and adult babesiosis

Babesiosis is an emerging zoonosis in North America. It is a malaria-like infection that is caused by the bite of an infected *Ixodes scapularis* tick. However, it also may be transmitted through transfusion of infected blood products and vertically, which may result in a congenital babesiosis infection. The most common hematological abnormalities associated with a babesia infection are anemia and thrombocytopenia. The authors conducted a study to review the frequency with which neutropenia occurs in congenital and adult cases of babesiosis. They performed a literature and medical record review to determine the frequency of neutropenia, which was defined as an absolute neutrophil count of 1,800 neutrophils/mL or less for adults and less than 1,200 neutrophils/mL for infants, during an acute babesia infection. The authors reviewed 51 medical records of patients diagnosed with babesia at two medical centers between 2010 and 2013. The results showed that four of the five infants with congenital babesiosis were neutropenic. Among the adult patients with babesiosis, 11 were neutropenic on clinical presentation and an additional seven patients developed neutropenia over the next one to 21 days. The authors concluded that neutropenia is a common finding in infants with congenital babesiosis and is observed not infrequently in adults with the infection. Additional studies are warranted to determine the mechanism for

development of neutropenia in acute babesiosis.

Wormser GP, Villafuerte P, Nolan SM, et al. Neutropenia in congenital and adult babesiosis. *Am J Clin Pathol*. 2015;144:94-96.

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