# Report Information from ProQuest

29 September 2023 06:41

## DAFTAR ISI

# Pulmonary Coccidioidomycosis Mimicking Aspergillosis Fungus Ball

Sathirareuangchai, Sakda [1] ; Whelen, A Christian [2] [1] Department of Pathology, John A. Burns School of Medicine, University of Hawaii, Honolulu, Hawaii, US [2] Department of Pathology, John A. Burns School of Medicine, University of Hawaii, Honolulu, Hawaii, US; Department of Microbiology, University of Hawaii, Honolulu, Hawaii, US; Diagnostic Laboratory Services, Inc., Aiea, Hawaii, US



## ABSTRAK (ENGLISH)

The genus *Coccidioides* is composed of *C. immitis* and *C. posadasii*. Both can cause coccidioidomycosis and are geographically restricted to certain areas of endemicity. The histopathologic features in pulmonary coccidioidomycosis include necrotizing granulomatous inflammation and the presence of spherules, which is considered to be a key diagnostic finding. Cavitary lung disease containing a fungal ball with branching septate hyphae is an unusual funding in pulmonary coccidioidomycosis but is typical for aspergillosis. We present a case of 42 year old man who underwent wedge resection of the lung for a persistent cavitary lesion. The microscopic examination shows a fungal ball composed of acute-angle branching septate hyphae, consistent with a diagnosis of aspergillosis. However, cultures and molecular testing by DNA sequencing of the 28S ribosomal DNA gene confirmed the identification of *C. posadasii*. This finding highlights the importance of exposure history and organism identification by either conventional cultivation or molecular testing in rendering an accurate diagnosis.



# Laboratory Medicine  Turns 50!

Bertholf, Roger L





# Mutation Analysis Using Multiplex Ligation-Dependent Probe Amplification in Consanguineous Families in South India with a Child with Profound Hearing Impairment

Arunachalam, Ravi Kumar [1] ; Koshy, Teena [2] ; Venkatesan, Vettriselvi [2] ; Gladys Prathiba Dawson [3] ; Solomon Franklin Durairaj Paul [2] ; George, Pratibha [1] [1] Department of ENT, Head and Neck Surgery, Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai, India [2] Department of Human Genetics, Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai, India [3] Department of Speech Language and Hearing Sciences, Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai, India



## ABSTRAK (ENGLISH)

**Background**

Consanguineous marriage, a common practice in South India, increase the incidence of autosomal recessive diseases such as nonsyndromic hearing loss (NSHL) in offspring. This trend was noted in the children with hearing impairment (HI) who received cochlear implants (CI) at our University hospital in Porur, Chennai, India. To ascertain the genetic etiology of HI in these patients, we performed multiplex ligation-dependent probe amplification (MLPA) analysis.

**Methods**

A total of 25 families who had a child with NSHL were included in the study. MLPA screening of *GJB2*, *GJB6*, and *GJB3* was performed for all the recruited individuals.

**Results**

The pathogenic p.W24X* mutation of *GJB2* was detected in 2 patients; both of their parents were heterozygous carriers. Both families had a second-degree consanguineous marriage.

**Conclusion**

This study has important implications for molecular-diagnosis strategy and genetic counseling for families with HI in South India.

Dokumen 4 dari 19

# Communication of Critical Laboratory Values: Optimization of the Process through Secure Messaging

Clavijo, Alex [1] ; Fallaw, David [1] ; Coule, Philip [1] ; Singh, Gurmukh [1] [1] Department of Pathology, Medical College of Georgia at Augusta University, Augusta, GA

## ABSTRAK (ENGLISH)

**Background**

Timely communication of critical laboratory results is important yet cumbersome.

**Objective**

To assess the impact of a new technology on the process of reporting critical laboratory results at our 480-bed, adult/children, tertiary-care, medical school–affiliated health center in the southeastern region of the United States.

**Methods**

We changed the process of reporting critical values by telephone only to reporting via telephone and a secure messaging app. Physician order entry, an online on-call roster for availability, and support from the C-suite (executive branch of the organization) were instrumental in implementation.

**Results**

Consistently, before our process changes, more than 95% of the critical laboratory results were reported in less than 30 minutes. Use of the app reduced the time taken for reporting results. The need to involve pathology residents and attending physicians in reporting has been eliminated by this process.

**Discussion**

Secure messaging has facilitated the reporting of critical laboratory values, making it more efficient and providing a reliable record of the process. This process meets or exceeds the standards of the accrediting agencies. The method is suitable for activating rapid-response teams in case of hypercritical values.

Dokumen 5 dari 19

# Reviewers List

Link dokumen ProQuest

Dokumen 6 dari 19

# An Analysis of Multirules for Monitoring Assay Quality Control

Walker, Brandon S [1] ; Pearson, Lauren N [1] ; Schmidt, Robert L [1] [1] Department of Pathology, University of Utah and ARUP Laboratories, Salt Lake City

Link dokumen ProQuest

## ABSTRAK (ENGLISH)


### Background

Multirules are often employed to monitor quality control (QC). The performance of multirules is usually determined by simulation and is difficult to predict. Previous studies have not provided computer code that would enable one to experiment with multirules. It would be helpful for analysts to have computer code to analyze rule performance.

### Objective

To provide code to calculate power curves and to investigate certain properties of multirule QC.

### Methods

We developed computer code in the R language to simulate multirule performance. Using simulation, we studied the incremental performance of each rule and determined the average run length and time to signal.

### Results

We provide R code for simulating multirule performance. We also provide a Microsoft Excel spreadsheet with a tabulation of results that can be used to create power curves. We found that the $R_{4S}$ and 10x rules add very little power to a multirule set designed to detect shifts in the mean.

### Conclusion

QC analysts should consider using a limited-rule set.


Dokumen 7 dari 19

# The History of Laboratory Medicine Part 1: 1970–1977; Laboratory Medicine Moves Ahead

Link dokumen ProQuest

Dokumen 8 dari 19

# Low S-adenosylmethionine/ S-adenosylhomocysteine Ratio in Urine is Associated with Chronic Kidney Disease

Kruglova, Maria Petrovna [1] ; Sergej Vital'evich Grachev [1] ; Bulgakova, Polina Olegovna [2] ; Ivanov, Alexander Vladimirovich [2] ; Virus, Edward Danielevich [2] ; Nikiforova, Ksenya Alexandrovna [2] ; Fedoseev, Anatolij Nikolaevich [3] ; Savina, Galina Dmitrievna [4] ; Aslan, Amirkhanovich Kubatiev [2 1] Sechenov First Moscow State Medical University (Sechenov University) of the Ministry of Health of the Russian Federation, Moscow, Russia [2] Department of Molecular and Cell Pathophysiology, Institute of General Pathology and Pathophysiology, Moscow, Russia [3] City Clinical Hospital 24 of Moscow Healthcare Department, Russia [4] Russian Medical Academy of Postdoctoral Education, Moscow, Russia



## ABSTRAK (ENGLISH)

**Objective**

To evaluate the association of S-adenosylmethionine (SAM) and S-adenosylhomocysteine (SAH) in urine with chronic kidney disease (CKD).

**Methods**

Case-control study including 50 patients with CKD and 20 healthy volunteers.

**Results**

SAM level and SAM/SAH ratio in urine were significantly lower in patients than in control individuals ($P$ <.001 and $P$ = .01, respectively). The estimated glomerular filtration rate was associated with the SAM level ($P$ = .04) and the SAM/SAH ratio in urine ($P$ = .01).

**Conclusion**

CKD is associated not only with the decline in the SAM level but also with the decrease in the SAM/SAH ratio in urine. Thus, use of the urinary SAM/SAH ratio as a noninvasive diagnostic indicator of renal function seems promising.

Dokumen 9 dari 19

# Risk Factors Analysis for Human Cytomegalovirus Viremia in Donor $^{+}$ /Recipient $^{+}$ Hematopoietic Stem Cell Transplantation

Yang, Rong [1] ; Zhang, Runan [1] ; Zhang, Yanyue [1] ; Huang, Yaping [1] ; Liang, Hanying [1] ; Gui, Genyong [1] ; Gong, Shengnan [1] ; Wang, Huiqi [1] ; Xu, Min [2] ; Fan, Jun [1 1] State Key Laboratory for Diagnosis and Treatment of Infectious Diseases, Collaborative Innovation Center for Diagnosis and Treatment of Infectious Diseases, College of Medicine, Zhejiang University, Hangzhou, China [2] Department of Information Center, The First Affiliated Hospital, College of Medicine, Zhejiang University, Hangzhou, China

## ABSTRAK (ENGLISH)

**Objective**

To assess the rate of, and risk factors for, human cytomegalovirus viremia (HCMV) in donor$^{+}$/recipient$^{+}$ (HCMV serostatus matched) hematopoietic stem-cell transplantation (HSCT) recipients.

**Methods**

HCMV DNA from 144 donor$^{+}$/recipient$^{+}$ HSCT recipients was examined by quantitative polymerase chain reaction (qPCR).

**Results**

The cumulative incidence of HCMV viremia was 69.4% (100/144) during the 48 weeks after HSCT. In a multivariate analysis, acute graft-versus-host disease (aGVHD) was discovered to be a risk factor for the occurrence of HCMV viremia ($P$ = .006). The cumulative incidence of HCMV viremia and increasing DNA loads were significantly associated with aGVHD occurrence ($P$ = .001 for each). The occurrence of late-term HCMV viremia was associated with aGVHD ($P$ = .001) and a higher DNA load during the first 12 weeks after HSCT ($P$ = .04).

**Conclusions**

aGVHD is a risk factor for HCMV viremia. Recipients with aGVHD who have a high HCMV DNA load should be strictly monitored to prevent HCMV activation.

Dokumen 10 dari 19

# Quantum Dots-Based Point-of-Care Measurement of Procalcitonin in Finger-Prick Blood and Venous Whole Blood Specimens

Tang, Junming [1] ; Jiang, Yan [2] ; Ge, Zhijun [2] ; Wu, Haifeng [2] ; Chen, Huajun [2] ; Dai, Ji [2] ; Gu, Yinjie [2] ; Mao, Xuhua [1] ; Lu, Junjie [2 1] Department of Clinical Laboratory, Yixing People's Hospital, Affiliated Jiangsu University, China [2] Department of Critical Care Medicine, Yixing People's Hospital, Affiliated Jiangsu University, China



## ABSTRAK (ENGLISH)

**Objective**

To determine whether the performance of a new quantum dots–based point-of-care test (POCT) devices is qualified

for procalcitonin testing.

**Methods**

Finger-prick and venous blood specimens from 153 patients were measured with a quantum dots–based POCT device; the results were compared with those from the reference method.

**Results**

The quantum dots–based POCT device correlated well with the reference method in measuring plasma, venous whole blood, and finger-prick blood. No significant bias was observed (−0.08 ng/mL). At 0.5 ng per mL cutoff value, the concordances were 96.6%, 94.6%, and 90.5% for plasma, venous whole blood, and finger-prick blood, respectively. And at 2 ng per mL cutoff value, the concordances were 98.0%, 96.6%, and 95.3%, respectively.

**Conclusions**

The quantum dots–based POCT device measured procalcitonin with multiple specimen types, high sensitivity, wide detection range, and short turnaround time. It would allow a more widespread use of procalcitonin and help lessen the burden of overcrowding in healthcare facilities in China.

---

Dokumen 11 dari 19

# Utilization of Laboratory Testing Algorithms for Celiac Disease in a Pediatric Hospital

Mahesheema Ali [1] ; Danner, Derek J [2] ; Fishman, Douglas S [3] ; Devaraj, Sridevi [4] [1] Department of Pathology, SUNY Upstate Medical University, Syracuse, New York [2] Department of Pathology &Immunology, Baylor College of Medicine, Houston, Texas [3] Division of Clinical Chemistry, Department of Pathology and Immunology, Texas Children's Hospital, Houston, Texas [4] Department of Pathology &Immunology, Baylor College of Medicine, Houston, Texas; Division of Clinical Chemistry, Department of Pathology and Immunology, Texas Children's Hospital, Houston, Texas



---

## ABSTRAK (ENGLISH)

**Background**

At Texas Children's Hospital in Houston, numerous celiac tests are ordered from a wide range of nonspecialty healthcare providers.

**Objective**

To retrospectively examine the ordering of celiac tests before and after a test ordering initiative at our institution, to determine whether the initiative impacted appropriate usage of those tests and affected costs.

**Methods**

We carefully scrutinized all orders for comprehensive celiac testing from July 2016 through September 2017,

implemented an in-house celiac-disease screening cascade, and reflexed it to the comprehensive celiac testing panel if an abnormal screening result was obtained.

**Results**

A total of 60 celiac test orders were issued during the 14-month study period. The ordering physician was a gastroenterologist in 6 cases and a nongastroenterologist in 54 cases. Of the 60 orders, only 4 were approved for sending out for comprehensive celiac testing; in 52 of the 60 cases, the order was altered to celiac screening. In the remaining 4 cases, the tests were canceled as a result of incorrect orders. Only 1 of the 52 celiac screenings yielded a positive result and thus was reflexed to the comprehensive panel.

**Conclusions**

We were able to induce appropriate celiac test usage by implementing a celiac-reflexive cascade. Also, our strategy proved to be extremely cost effective.

---

Dokumen 12 dari 19

# Residual Negative Pressure in Vacuum Blood-Collection Tube and Hemolysis in Pediatric Blood Specimens

Hu, Jing [1] ; Qiao-Xin, Zhang [1] ; Tong-Tong, Xiao [1] ; Mei-Chen, Pan [1] ; Ying-Mu Cai [1] [1] Department of Clinical Laboratory, The First Affiliated Hospital of Shantou University Medical College, China

Link dokumen ProQuest

---

## ABSTRAK (ENGLISH)

**Objective**

To determine a method to reduce specimen hemolysis rates in pediatric blood specimens.

**Methods**

A total of 290 blood specimens from pediatric patients were classified into the capped group or uncapped group. The hemolysis index and levels of lactate dehydrogenase (LDH) were measured using an automated biochemical analyzer. Also, we performed a paired test to measure the concentration of free hemoglobin in specimens from 25 randomly selected healthy adult volunteers, using a direct spectrophotometric technique.

**Results**

The hemolytic rate of capped specimens was 2-fold higher than that of uncapped specimens. We found significant differences for LDH. Also, there was a significant difference in the concentration of free hemoglobin in the random-volunteers test.

**Conclusions**

Eliminating the residual negative pressure of vacuum blood-collection tubes was effective at reducing the macrohemolysis and/or microhemolysis rate.

Dokumen 13 dari 19

# False-Negative Urine Human Chorionic Gonadotropin Testing in the Clinical Laboratory

Herskovits, Adrianna Z [1] ; Chen, Yigu [1] ; Latifi, Niloofar [2] ; Ta, Robert M [1] ; Kriegel, Gila [2 1] Department of Pathology, Beth Israel Deaconess Medical Center, Boston, Massachusetts [2] Department of Medicine, Beth Israel Deaconess Medical Center, Boston, Massachusetts



## ABSTRAK (ENGLISH)

**Background**

Human chorionic gonadotropin (hCG) assays are used to detect pregnancy, and urine point-of-care tests are frequently used to triage patients. Under certain conditions, urine tests can fail to detect pregnancy, which can have serious consequences for patient management.

**Objectives**

To understand the prevalence of different factors contributing to false-negative urinary hCG testing results at our institution.

**Methods**

Clinical data for patients with negative urine hCG results and subsequent positive or equivocal serum hCG results within a 1-year period were reviewed.

**Results**

Out of 9447 negative urine hCG results, 11 potential missed diagnoses were identified, with early gestational age as the most common factor, followed by β-core hook effects.

**Conclusions**

Although false-negative urine hCG test results are rare, understanding the commonly encountered reasons for inaccurate testing results can help clinical centers develop strategies to minimize risk for patients.

Dokumen 14 dari 19

# Increased Oxidized High-Density Lipoprotein/High-Density Lipoprotein–Cholesterol Ratio as a Potential Indicator of Disturbed Metabolic Health in Overweight and Obese Individuals

Janac, Jelena M [1] ; Zeljkovic, Aleksandra [1] ; Jelic-Ivanovic, Zorana D [1] ; Dimitrijevic-Sreckovic, Vesna S [2] ; Vekic, Jelena [1] ; Miljkovic, Milica M [1] ; Stefanovic, Aleksandra [1] ; Kotur-Stevuljevic, Jelena M [1] ; Ivanisevic, Jasmina M [1] ; Spasojevic-Kalimanovska, Vesna V [1] [1] Department of Medical Biochemistry, Faculty of Pharmacy, University of Belgrade, Republic of Serbia [2] Clinic for Endocrinology, Diabetes and Metabolic Diseases, Clinical Center of Serbia; Faculty of Medicine, University of Belgrade, Republic of Serbia



## ABSTRAK (ENGLISH)

**Background**

We evaluated the qualitative characteristics of high-density lipoprotein (HDL) particles in metabolically healthy and unhealthy overweight and obese subjects.

**Methods**

The study involved 115 subject individuals classified as metabolically healthy and unhealthy, as in overweight and obese groups. Commercial enzyme-linked immunosorbent assay (ELISA) kits were used to measure oxidized HDL (OxHDL) and serum amyloid A (SAA) concentrations. Lipoprotein subfractions were separated using nondenaturing gradient gel electrophoresis.

**Results**

An independent association was shown between increased OxHDL/HDL-cholesterol ratio and the occurrence of metabolically unhealthy phenotype in the overweight and obese groups. The OxHDL/HDL-cholesterol ratio showed excellent and acceptable diagnostic accuracy in determination of metabolic health phenotypes (overweight group, AUC = 0.881; obese group, AUC = 0.765). Accumulation of smaller HDL particles in metabolically unhealthy subjects was verified by lipoprotein subfraction analysis. SAA concentrations did not differ significantly between phenotypes.

**Conclusions**

Increased OxHDL/HDL-cholesterol ratio may be a potential indicator of disturbed metabolic health in overweight and obese individuals.

# Application of High-Resolution Melting PCR to Detect the Genomic Fungal ITS 2 Region

Nawar, Nada N [1] ; Behiry, Iman K [1] ; Yousef, Reham H A [1] ; Emara, Mohamed A [2] [1] Clinical and Chemical Pathology Department, Faculty of Medicine, Cairo University, Egypt [2] El Shiekh Zayed Specialized Hospital, Ministry of Health, Cairo, Egypt



## ABSTRAK (ENGLISH)

**Background**

Invasive fungal infections (IFIs) are a main cause of morbidity and mortality. High-resolution melting polymerase chain reaction (HRM PCR) is promising for the identification of fungal species via the detection of internal transcribed spacer 2 (ITS2).

**Objectives**

To assess the sensitivity and specificity of HRM PCR in diagnosing IFIs, compared with blood culture.

**Methods**

Our study included 100 patients who were suspected of having IFIs; we analyzed their specimens via blood culture and HRM PCR.

**Results**

Blood culture results were positive in 57 cases and negative in 43 cases. HRM PCR results were positive in 14 cases and negative in 86 cases. The 14 cases with positive results included 4 with *Candida tropicalis*, 4 with *Candida glabrata*, and 6 with *Candida krusei*. HRM PCR sensitivity was 24.6%, specificity was 100%, positive predictive value (PPV) was 100%, and negative predictive value (NPV) was 50%.

**Conclusions**

HRM PCR is specific but not sensitive. Blood culture is more sensitive and cannot be replaced by HRM PCR.

Dokumen 16 dari 19

# Non–High-Density Lipoprotein Cholesterol and Guidelines for Cholesterol Lowering in Recent History

Levinson, Stanley S [1] [1] Department of Veteran Affairs Medical Center, Louisville, Kentucky; Department of Medicine, Division of Endocrinology, Diabetes and Metabolism, University of Louisville, Kentucky

## ABSTRAK (ENGLISH)

**Background**

The National Cholesterol Education Program (NCEP) released guidelines for treating cholesterol in 1988, 1994, and 2002. After a hiatus, the guidelines were released again in 2013, 2016, 2017, and 2018.

**Methods**

In this article, I review these guidelines, factors that affected their release, how they evolved, and why recommended treatment targets are reasonable. Also, to aid reader understanding, I briefly discuss biochemical mechanisms and the pathophysiology of beta-lipoproteins, focusing on the importance on non–high-density cholesterol (non-HDLC) in assessing risk and as a target for treatment. The concepts discussed are important to laboratory clinicians because those workers inscribe target values on the reports and may consult with medical staff members.

**Conclusions**

The newest recommendations, released in 2018, are an extension of the 2017 guidelines that defined non-HDLC as equivalent to low-density lipoprotein cholesterol (LDLC). For the reasons discussed herein, non-HDLC has advantages over LDLC. Laboratories reporting cholesterol results should include non-HDLC values and cutoffs in their reports.



# An Automated Method for Direct Antiglobulin Testing and the Resulting Amount of Phototherapy Used at a Large Academic Medical Center

Fei, Fei [1] ; Marques, Marisa B [1] ; Staley, Elizabeth M [1] ; Williams, Lance A, III [1] [1] Department of Pathology, University of Alabama at Birmingham



## ABSTRAK (ENGLISH)

**Objective**

To evaluate how clinical practice was affected by the change in direct antiglobulin testing (DAT) methodologies and subsequent stronger reported DAT results at our large academic medical center.

**Method**

We retrospectively reviewed DAT results of umbilical cord blood from infants with blood type A or B born to mothers with antibody-negative type O blood, based on records kept at the University of Alabama at Birmingham (UAB) Hospital, a 1400-bed academic medical center.

**Results**

We randomly chose 50 neonates with positive DAT results who had been tested using the tube method and 50 whose testing had used the gel method. Although 86% of results with the tube method were positive microscopically, 52% and 40% of the DAT results with the gel method were 1+ and 2+ positive, respectively. Further, we observed an increase in the number of neonates treated with phototherapy who had been tested using the gel method.

**Conclusion**

We report that DATs performed using the gel method had increased DAT strength compared with tube testing, which led to increased use of phototherapy by our clinical colleagues.



# A Pitfall in HbA1c Testing Caused by Hb Long Island Hemoglobin Variant

Luo, Wei [1] ; Yao, Nan [2] ; Bian Ying [3] ; Dong Zuoliang [1] [1] Clinical Laboratory Department, Tianjin Medical University General Hospital, Tianjin, China [2] Binhai Tanggu Blood Station, Tianjin, China [3] Clinical Laboratory Department, Second Hospital of Tianjin Medical University, Tianjin, China



## ABSTRAK (ENGLISH)

**Background**

Although many factors may interfere with hemoglobin (Hb)A1c measurement, Hb variants are among the most important factors.

**Methods**

We tested the HbA1c levels of the patient, a 32 year old Manchu Chinese woman, during a routine health check. We used different methods, including high-performance liquid chromatography (HPLC) and capillary electrophoresis, to test specimens from the patient. Next, we tested the specimen further using polymerase chain reaction (PCR) and sequencing.

**Results**

We discovered that our patient, who had an HbA1c value of 0, also has an Hb variant, Hb Long Island, which we found during the HbA1c analysis as part of her routine health check at the Health Management Center in the General Hospital of Tianjin Medical University, Tianjin, China. Also, we discovered that the exon 1 of β gene contained transversion mutations, with 1 heterozygous and 1 homozygous variant (HBB:c.8A >C, 9T >C). These gene mutations resulted in an amino-acid change (His to Pro) and a decrease in HbA1c value.

**Conclusions**

When there is no correlation between the clinical signs, glycemic status, and glycated Hb levels of the patient, the chromatogram of HbA1c should be carefully checked to detect possible variants that cause interference in the measurement.



# Novel Example of a Direct-Agglutinating Anti-Ku

Michael Sel Gannett [1] ; Gammon, Richard R [2 1] Immunohematology Reference Laboratory—Orlando, Orlando, Florida [2] Scientific Medical and Technical Administration, OneBlood, Inc, Orlando, Florida



## ABSTRAK (ENGLISH)

**Background**

Several Kell-system antibodies are known to cause direct agglutination. Also, some specificities, such as anti-Ku, have been reported to react only via the indirect antiglobulin test (IAT).

**Methods**

Herein, we describe the case of a 61-year-old alloimmunized white woman who presented to an outside hospital with a gastrointestinal (GI) bleed and a “possible anti-Ku” was reported with 3+ reactivity at PEG-IAT and at Ficin-IAT; in addition to an unidentified cold antibody. Subsequently, when the patient presented to a second outside hospital, an anti-Ku that caused 3+ to 4+ reactions at saline-immediate spin (IS) was identified. The reactivity was evaluated with 0.01-M dithiothreitol (DTT) treatment of the plasma.

**Results**

It was determined that the strong agglutination with saline-IS was caused by immunoglobulin (Ig)M anti-Ku.

**Conclusion**

To our knowledge, this is the first reported case of an IgM anti-Ku.

# Daftar Pustaka

Citation style: APA 6th - Annotated with Abstracts - American Psychological Association, 6th Edition

Sathirareuangchai, S., & Whelen, A. C. (2020). Pulmonary coccidioidomycosis mimicking aspergillosis fungus ball. Labmedicine, 51(1), e12-e15. doi:https://doi.org/10.1093/labmed/lmz065

The genus Coccidioides is composed of C. immitis and C. posadasii. Both can cause coccidioidomycosis and are geographically restricted to certain areas of endemicity. The histopathologic features in pulmonary coccidioidomycosis include necrotizing granulomatous inflammation and the presence of spherules, which is considered to be a key diagnostic finding. Cavitary lung disease containing a fungal ball with branching septate hyphae is an unusual funding in pulmonary coccidioidomycosis but is typical for aspergillosis. We present a case of 42 year old man who underwent wedge resection of the lung for a persistent cavitary lesion. The microscopic examination shows a fungal ball composed of acute-angle branching septate hyphae, consistent with a diagnosis of aspergillosis. However, cultures and molecular testing by DNA sequencing of the 28S ribosomal DNA gene confirmed the identification of C. posadasii. This finding highlights the importance of exposure history and organism identification by either conventional cultivation or molecular testing in rendering an accurate diagnosis.

Bertholf, R. L. (2020). Laboratory medicine turns 50! Labmedicine, 51(1), 5-6. doi:https://doi.org/10.1093/labmed/lmz097

Arunachalam, R. K., Koshy, T., Venkatesan, V., Gladys, P. D., Solomon Franklin, D. P., & George, P. (2020). Mutation analysis using multiplex ligation-dependent probe amplification in consanguineous families in south india with a child with profound hearing impairment. Labmedicine, 51(1), 56-65. doi:https://doi.org/10.1093/labmed/lmz027

Background Consanguineous marriage, a common practice in South India, increase the incidence of autosomal recessive diseases such as nonsyndromic hearing loss (NSHL) in offspring. This trend was noted in the children with hearing impairment (HI) who received cochlear implants (CI) at our University hospital in Porur, Chennai, India. To ascertain the genetic etiology of HI in these patients, we performed multiplex ligation-dependent probe amplification (MLPA) analysis. Methods A total of 25 families who had a child with NSHL were included in the study. MLPA screening of GJB2, GJB6, and GJB3 was performed for all the recruited individuals. Results The pathogenic p.W24X* mutation of GJB2 was detected in 2 patients; both of their parents were heterozygous carriers. Both families had a second-degree consanguineous marriage. Conclusion This study has important implications for molecular-diagnosis strategy and genetic counseling for families with HI in South India.

Clavijo, A., Fallaw, D., Coule, P., & Singh, G. (2020). Communication of critical laboratory values: Optimization of the process through secure messaging. Labmedicine, 51(1), e6-e11. doi:https://doi.org/10.1093/labmed/lmz047

Background Timely communication of critical laboratory results is important yet cumbersome. Objective To assess the impact of a new technology on the process of reporting critical laboratory results at our 480-bed, adult/children, tertiary-care, medical school–affiliated health center in the southeastern region of the United States. Methods We changed the process of reporting critical values by telephone only to reporting via telephone and a secure messaging app. Physician order entry, an online on-call roster for availability, and support from the C-suite (executive branch of the organization) were instrumental in implementation. Results Consistently, before our process changes, more than 95% of the critical laboratory results were reported in less than 30 minutes. Use of the app reduced the time taken for reporting results. The need to involve pathology residents and attending physicians in reporting has been eliminated by this process. Discussion Secure messaging has facilitated the reporting of critical laboratory values, making it more efficient and providing a reliable record of the process. This process meets or exceeds the standards of the accrediting agencies. The method is suitable for activating rapid-response teams in case of hypercritical values.

Reviewers list. (2020). Labmedicine, 51(1), 12-13. doi:https://doi.org/10.1093/labmed/lmz098

Walker, B. S., Pearson, L. N., & Schmidt, R. L. (2020). An analysis of multirules for monitoring assay quality control. Labmedicine, 51(1), 94-98. doi:https://doi.org/10.1093/labmed/lmz038

Background Multirules are often employed to monitor quality control (QC). The performance of multirules is usually determined by simulation and is difficult to predict. Previous studies have not provided computer code that would enable one to experiment with multirules. It would be helpful for analysts to have computer code to analyze rule performance. Objective To provide code to calculate power curves and to investigate certain properties of multirule QC. Methods We developed computer code in the R language to simulate multirule performance. Using simulation, we studied the incremental performance of each rule and determined the average run length and time to signal. Results We provide R code for simulating multirule performance. We also provide a Microsoft Excel spreadsheet with a tabulation of results that can be used to create power curves. We found that the R4S and 10x rules add very little power to a multirule set designed to detect shifts in the mean. Conclusion QC analysts should consider using a limited-rule set.

The history of laboratory medicine part 1: 1970–1977; laboratory medicine moves ahead. (2020). Labmedicine, 51(1), 7-11. doi:https://doi.org/10.1093/labmed/lmz093

Kruglova, M. P., Sergej Vital'evich Grachev, Bulgakova, P. O., Ivanov, A. V., Virus, E. D., Nikiforova, K. A., . . . Aslan, A. K. (2020). Low S-adenosylmethionine/ S-adenosylhomocysteine ratio in urine is associated with chronic kidney disease. Labmedicine, 51(1), 80-85. doi:https://doi.org/10.1093/labmed/lmz035

Objective To evaluate the association of S-adenosylmethionine (SAM) and S-adenosylhomocysteine (SAH) in urine with chronic kidney disease (CKD). Methods Case-control study including 50 patients with CKD and 20 healthy volunteers. Results SAM level and SAM/SAH ratio in urine were significantly lower in patients than in control individuals (P <.001 and P = .01, respectively). The estimated glomerular filtration rate was associated with the SAM level (P = .04) and the SAM/SAH ratio in urine (P = .01). Conclusion CKD is associated not only with the decline in the SAM level but also with the decrease in the SAM/SAH ratio in urine. Thus, use of the urinary SAM/SAH ratio as a noninvasive diagnostic indicator of renal function seems promising.

Yang, R., Zhang, R., Zhang, Y., Huang, Y., Liang, H., Gui, G., . . . Fan, J. (2020). Risk factors analysis for human cytomegalovirus viremia in Donor+/Recipient+ hematopoietic stem cell transplantation. Labmedicine, 51(1), 74-79. doi:https://doi.org/10.1093/labmed/lmz030

Objective To assess the rate of, and risk factors for, human cytomegalovirus viremia (HCMV) in donor+/recipient+ (HCMV serostatus matched) hematopoietic stem-cell transplantation (HSCT) recipients. Methods HCMV DNA from 144 donor+/recipient+ HSCT recipients was examined by quantitative polymerase chain reaction (qPCR). Results The cumulative incidence of HCMV viremia was 69.4% (100/144) during the 48 weeks after HSCT. In a multivariate analysis, acute graft-versus-host disease (aGVHD) was discovered to be a risk factor for the occurrence of HCMV viremia (P = .006). The cumulative incidence of HCMV viremia and increasing DNA loads were significantly associated with aGVHD occurrence (P = .001 for each). The occurrence of late-term HCMV viremia was associated with aGVHD (P = .001) and a higher DNA load during the first 12 weeks after HSCT (P = .04). Conclusions aGVHD is a risk factor for HCMV viremia. Recipients with aGVHD who have a high HCMV DNA load should be strictly monitored to prevent HCMV activation.

Tang, J., Jiang, Y., Ge, Z., Wu, H., Chen, H., Dai, J., . . . Lu, J. (2020). Quantum dots-based point-of-care measurement of procalcitonin in finger-prick blood and venous whole blood specimens. Labmedicine, 51(1), 34-40. doi:https://doi.org/10.1093/labmed/lmz025

Objective To determine whether the performance of a new quantum dots–based point-of-care test (POCT) devices is qualified for procalcitonin testing. Methods Finger-prick and venous blood specimens from 153 patients were measured with a quantum dots–based POCT device; the results were compared with those from the reference method. Results The quantum dots–based POCT device correlated well with the reference method in measuring plasma, venous whole blood, and finger-prick blood. No significant bias was observed (−0.08 ng/mL). At 0.5 ng per mL cutoff value, the concordances were 96.6%, 94.6%, and 90.5% for plasma, venous whole blood, and finger-prick blood, respectively. And at 2 ng per mL cutoff value, the concordances were 98.0%, 96.6%, and 95.3%, respectively. Conclusions The quantum dots–based POCT device measured procalcitonin with multiple specimen

types, high sensitivity, wide detection range, and short turnaround time. It would allow a more widespread use of procalcitonin and help lessen the burden of overcrowding in healthcare facilities in China.

Ali, M., Danner, D. J., Fishman, D. S., & Devaraj, S. (2020). Utilization of laboratory testing algorithms for celiac disease in a pediatric hospital. Labmedicine, 51(1), 99-104. doi:https://doi.org/10.1093/labmed/lmz037

Background At Texas Children's Hospital in Houston, numerous celiac tests are ordered from a wide range of nonspecialty healthcare providers. Objective To retrospectively examine the ordering of celiac tests before and after a test ordering initiative at our institution, to determine whether the initiative impacted appropriate usage of those tests and affected costs. Methods We carefully scrutinized all orders for comprehensive celiac testing from July 2016 through September 2017, implemented an in-house celiac-disease screening cascade, and reflexed it to the comprehensive celiac testing panel if an abnormal screening result was obtained. Results A total of 60 celiac test orders were issued during the 14-month study period. The ordering physician was a gastroenterologist in 6 cases and a nongastroenterologist in 54 cases. Of the 60 orders, only 4 were approved for sending out for comprehensive celiac testing; in 52 of the 60 cases, the order was altered to celiac screening. In the remaining 4 cases, the tests were canceled as a result of incorrect orders. Only 1 of the 52 celiac screenings yielded a positive result and thus was reflexed to the comprehensive panel. Conclusions We were able to induce appropriate celiac test usage by implementing a celiac-reflexive cascade. Also, our strategy proved to be extremely cost effective.