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Liver Blood Tests in the Management of Suspected Choledocholithiasis

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ABSTRAK (ENGLISH)

Objective

The likelihood of common bile duct (CBD) stones considers liver blood tests (LBTs) if they are markedly altered only. The aim of our study was to find a reliable tool based on LBTs to predict the presence of CBD stones.

Methods

We retrospectively considered all patients who underwent magnetic resonance cholangiopancreatography (MRCP) because of suspected CBD stones from January 2014 to June 2019. Demographic, clinical data, and LBT values were collected and analyzed.

Results

We selected 191 patients, 64 (33.5%) with positive MRCP and 127 (66.5%) with negative MRCP. The analysis showed that our compound LBT-based score had 83.6%, 90.7%, and 90.6% sensitivity, specificity, and negative predictive values, respectively, in determining MRCP results.

Conclusion

We designed a weighted score with high diagnostic power in determining MRCP results that could help in differentiating between candidates for primary cholecystectomy and patients who benefit from preoperative MRCP.

DETAIL

Subjek:	Blood tests
Pengidentifikasi/kata kunci:	cholestasis; common bile duct gallstones; magnetic resonance cholangiopancreatography; gallbladder; predictive value of tests; cholecystectomy
Judul:	Liver Blood Tests in the Management of Suspected Choledocholithiasis

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Anti-S Antibody: A Rare Cause of Fetal Hydrops in a Previously Sensitized Mother

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ABSTRAK (ENGLISH)

Anti-S is an IgG antibody and a rare cause of hemolytic disease of the fetus and newborn. A 38 year old woman with blood group O Rh-positive presented to the hospital at 30 weeks gestation. Her past medical history was significant for sickle cell disease and alloantibodies against the Fya, Jkb, and S antigens. Obstetric ultrasound showed the fetus to have developed scalp edema, cardiomegaly, small pericardial effusion, and large ascites. Periumbilical blood sampling results showed the fetus blood type as blood group O Rh-positive with anti-S and hemoglobin of 2 gm/dL. After multiple intrauterine transfusions of red blood cells, the fetal hemoglobin increased to 12.9 g/dL. Anti-S can cause fetal hydrops, although it is rare. All pregnant women with anti-S should be closely monitored and treated during pregnancy for the possibility of developing a severe hemolytic disease of the fetus and newborn.

DETAIL

Subjek:	Fetuses; Hemoglobin; Blood groups
Pengidentifikasi/kata kunci:	anti-S; CMV; PUBS; RBC; MoM; HDFN
Judul:	Anti-S Antibody: A Rare Cause of Fetal Hydrops in a Previously Sensitized Mother
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Relationship Between Gene Polymorphism of Methylenetetrahydrofolate Reductase C677T and Left Ventricular Hypertrophy in Chinese Patients with Chronic Kidney Disease

Xie, Wu [1] ; Lin, Jing [2] ; Xue, Ning [3] ; Teng, Jie [2] ; Wang, Yaqiong [3] ; Yang, Li [1] ; Xu, Xunhui [1] ; Shen, Ziyan [3] ; Ding, Xiaoqiang [2] ; Fang, Yi [2 1] Department of Nephrology, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Key Laboratory of Kidney and Blood Purification, Zhongshan Hospital, Fudan University, Shanghai, China [2] Department of Nephrology, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Key Laboratory of Kidney and Blood Purification, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Medical Center of Kidney Disease, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Institute of Kidney and Dialysis, Zhongshan Hospital, Fudan University, Shanghai, China [3] Department of Nephrology, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Medical Center of Kidney Disease, Zhongshan Hospital, Fudan University,

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ABSTRAK (ENGLISH)

Objective

This study aimed to investigate the relationship between the gene polymorphism of methylenetetrahydrofolate reductase (*MTHFR*) C677T and left ventricular hypertrophy (LVH) in patients with chronic kidney disease (CKD).

Methods

A total of 763 Chinese patients with CKD undergoing genetic testing were included in the study. The association between the gene polymorphism of *MTHFR* C677T and echocardiographic parameters was analyzed through univariate and multivariate analyses.

Results

We found a remarkably positive association between *MTHFR* C677T gene polymorphism and LVH indexes, including interventricular septal thickness ($F = 3.8$; $P = .022$), left ventricular posterior wall thickness ($F = 3.0$; $P = .052$), left ventricular mass ($F = 3.9$; $P = .022$), and left ventricular mass index ($F = 2.6$; $P = .075$). After adjusting for the potential confounders linking the polymorphism,we found that the positive association between the polymorphism and LVH indexes still existed in patients with CKD in some multiple linear regression models ($P < .05$).

Conclusion

MTHFR C677T gene polymorphism may be a genetic susceptibility marker for the development of LVH in patients with CKD.

DETAIL

Subjek:	Kidney diseases; Polymorphism
Pengidentifikasi/kata kunci:	methylenetetrahydrofolate reductase; gene polymorphism; homocysteine; left ventricular hypertrophy; chronic kidney disease
Judul:	Relationship Between Gene Polymorphism of Methylenetetrahydrofolate Reductase C677T and Left Ventricular Hypertrophy in Chinese Patients with Chronic Kidney Disease

Pengarang:	Xie, Wu1 ; Lin, Jing2; Xue, Ning3; Teng, Jie2; Wang, Yaqiong3; Yang, Li1; Xu, Xunhui1; Shen, Ziyan3; Ding, Xiaoqiang2; Fang, Yi21 Department of Nephrology, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Key Laboratory of Kidney and Blood Purification, Zhongshan Hospital, Fudan University, Shanghai, China2 Department of Nephrology, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Key Laboratory of Kidney and Blood Purification, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Medical Center of Kidney Disease, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Institute of Kidney and Dialysis, Zhongshan Hospital, Fud an University, Shanghai, China3 Department of Nephrology, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Medical Center of Kidney Disease, Zhongshan Hospital, Fudan University, Shanghai, China; Shanghai Institute of Kidney and Dialysis, Zhongshan Hospital, Fudan University, Shanghai, China
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Utility of Antigen-Based Rapid Diagnostic Test for Detection of SARS-CoV-2 Virus in Routine Hospital Settings

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Objective

This study aims to evaluate the performance of an antigen-based rapid diagnostic test (RDT) for the detection of the SARS-CoV-2 virus.

Methods

A cross-sectional study was conducted on 677 patients. Two nasopharyngeal swabs and 1 oropharyngeal swab were collected from patients. The RDT was performed onsite by a commercially available immune-chromatographic assay on the nasopharyngeal swab. The nasopharyngeal and oropharyngeal swabs were examined for SARS-CoV-2 RNA by real-time reverse-transcription quantitative polymerase chain reaction (RT-qPCR) assay.

Results

The overall sensitivity of the SARS-CoV-2 RDT was 34.5% and the specificity was 99.8%. The positive predictive value and negative predictive value of the test were 96.6% and 91.5%, respectively. The detection rate of RDT in RT-qPCR positive results was high (45%) for cycle threshold values <25.

Conclusion

The utility of RDT is in diagnosing symptomatic patients and may not be particularly suited as a screening tool for patients with low viral load. The low sensitivity of RDT does not qualify its use as a single test in patients who test negative; RT-qPCR continues to be the gold standard test.

DETAIL

Subjek:	Antigens; Severe acute respiratory syndrome coronavirus 2; Diagnostic tests; Medical diagnosis
Pengidentifikasi/kata kunci:	RDT; rapid antigen test; RT-qPCR; COVID-19
Judul:	Utility of Antigen-Based Rapid Diagnostic Test for Detection of SARS-CoV-2 Virus in Routine Hospital Settings
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Cell-Derived Microparticles in Blood Products from Blood Donors Deficient in Glucose-6-Phosphate Dehydrogenase

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Objective

To quantitate the microparticles (MPs) in whole blood and blood products obtained from blood donors who are deficient in glucose-6-phosphate dehydrogenase (G6PD).

Methods

The current study analyzed whole blood and blood components prepared from 49 blood donors with G6PD deficiencies and 98 with G6PD-normal results. Packed red blood cells (PRBCs), platelet concentrate (PC), and plasma were prepared according to transfusion laboratory procedures. MP concentrations were determined using a flow cytometer.

Results

Blood components prepared from donors with G6PD deficiency were characterized by higher red blood cell-derived MP (RMP) concentration in PRBCs (25,526 vs 18,738 particles/μL) but lower concentrations of platelet-derived MPs (PMPs; in whole blood and PC), leukocyte-derived MPs (LMP; in whole blood and plasma) and total MP (in PC), compared with those from donors with G6PD-normal test results.

Conclusions

These results suggest that differences in G6PD status may account for variation in RMP levels during processing.

DETAIL

Subjek: Blood &organ donations; Blood products; Dehydrogenases

Pengidentifikasi/kata kunci:	transfusion; blood donor; G6PD deficiency; packed red blood cells; microparticle; flow cytometry
Judul:	Cell-Derived Microparticles in Blood Products from Blood Donors Deficient in Glucose-6-Phosphate Dehydrogenase
Pengarang:	Noulsri, Egarit1 ; Lerdwana, Surada2; Palasuwan, Duangdao3; Palasuwan, Attakorn31 Research Division and Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand2 Biomedical Research Incubator Unit, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand3 Oxidation in Red Cell Disorders and Health Task Force, Department of Clinical Microscopy, Faculty of Allied Health Sciences, Chulalongkorn University, Bangkok, Thailand
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Using the BDFX40 Automated Continuous Blood Culture System to Isolate and Recover Streptobacillus moniliformis in the Presence of 0.05% SPS: A 55-Year, 56-Strain Retrospective Study

Szewc, Adam M [1] ; Bell, Melissa E [1] ; Kelly, Aubree J [1] ; Humrighouse, Ben W [1] ; McQuiston, John R [1] [1] Bacterial Special Pathogens Branch (BSPB), Division of High-Consequence Pathogens and Pathology, National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia, USA

Link dokumen ProQuest

ABSTRAK (ENGLISH)

Rat bite fever and Haverhill fever are often difficult to diagnose in a clinical setting. This difficulty results in part from clinicians and laboratory professionals not being able to reliably recover the causative agent *Streptobacillus moniliformis* using culture-based methods. After utilizing an automated continuous-monitoring blood culture bottle system, we showed that the organism can be reliably cultured when a blood volume inoculum of 10 mL is used. Further, we showed that when the above recommendation is followed, sodium polyanethole sulfonate (up to a concentration of 0.05% w/v) in commercially purchased blood culture bottle formulations seems to be inactivated, allowing for the growth and detection of *S. moniliformis*. Herein, we offer data and methods used to overcome these clinical limitations. This is a comprehensive study of the historical collection of *S. moniliformis* isolates maintained by our facility and believed to be the largest of its kind to date.

DETAIL

Subjek:	Automation; Blood
Ketentuan indeks bisnis:	Subjek: Automation
Pengidentifikasi/kata kunci:	Haverhill fever; Liquoid; rat-bite fever; sodium polyanethole sulfonate; Streptobacillus moniliformis
Judul:	Using the BDFX40 Automated Continuous Blood Culture System to Isolate and Recover Streptobacillus moniliformis in the Presence of 0.05% SPS: A 55-Year, 56-Strain Retrospective Study

Pengarang:	Szewc, Adam M1; Bell, Melissa E1; Kelly, Aubree J1; Humrighouse, Ben W1; McQuiston, John R11 Bacterial Special Pathogens Branch (BSPB), Division of High-Consequence Pathogens and Pathology, National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia, USA
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D-Dimer Combined With CRP Can Improve the Differential Value of Bacterial Meningitis and Tuberculous Meningitis

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ABSTRAK (ENGLISH)

Objective

To explore the diagnostic value of the coagulation marker D-dimer and its combination with the traditional marker C-reactive protein (CRP) in distinguishing bacterial meningitis (BM) from tuberculous meningitis (TM).

Methods

We performed a retrospective study on specimens from 173 patients with meningitis who were hospitalized at the First Affiliated Hospital of Guangxi Medical University, Guangxi, China, from 2012 through 2020. The patient records were divided into the BM group and the TM group, and hematological parameters D-dimer and CRP were evaluated for the 2 groups.

Results

The levels of D-dimer and CRP in the BM group were significantly higher than those levels in the TM group (P <.001 for each), and the sensitivity and specificity of the combined detection of the 2 markers was 86.3% to 100%; the area under the receiver operating characteristic (ROC) curve reached 0.983 (95% confidence interval [CI], 0.966–0.999).

Conclusion

D-dimer testing has high specificity in distinguishing between BM and TM; CRP testing also has high sensitivity. The combined diagnosis of the 2 biomarkers helps to distinguish TM from BM.

DETAIL

Subjek:	Meningitis; Medical diagnosis
Pengidentifikasi/kata kunci:	D-dimer; CRP; bacterial meningitis; tuberculous meningitis; biomarkers; joint diagnosis
Judul:	D-Dimer Combined With CRP Can Improve the Differential Value of Bacterial Meningitis and Tuberculous Meningitis

Pengarang:	Lu, Liuyi1; Qi, Yunwei1; Chen, Huaping1; Hu, Zuojian1; Yang, Sitao1; Qin, Simeng1; Zhang, Linyan1; Chen, Mingxing1; Xue Qin11 Clinical Laboratory Department, First Affiliated Hospital of Guangxi Medical University, Nanning, Guangxi, China
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Comparative Evaluation of the Modified Carbapenem Inactivation Method for Phenotypic Detection of Guiana Extended-Spectrum β-Lactamase-Type Carbapenemases in Enterobacterales

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ABSTRAK (ENGLISH)

Objective

We comparatively evaluated the performance of 3 phenotypic tests for the detection of carbapenemase production.

Materials and Methods

Carbapenemase production was evaluated using the modified Hodge test (MHT), the modified carbapenemase inhibition method (mCIM), and the Rapidec Carba NP test (RCNP).

Results

Among the 170 isolates, 79 were CP-CRE and 91 were non-CP-CRE. The CP-CRE isolates produced GES-5 (n = 66), KPC (n = 4), NDM (n = 7), NDM and OXA-48 (n = 1), and VIM (n = 1). For KPC producers, all 3 methods showed a sensitivity of 75%. The sensitivities of MHT, mCIM, and RCNP were 14.3%, 100%, and 71.4%, respectively, for NDM producers, and 1.5%, 12.1%, and 18.2% for GES-5 producers, respectively.

Conclusion

The performance of the phenotypic tests varied depending on the type of carbapenemase. For intensive infection control, phenotypic and molecular tests are required for the detection of common and rare types of carbapenemases.

DETAIL

Subjek:	Laboratories; Infections; Medicine; Methods; E coli; Indicator organisms; Polymerase chain reaction; Disease control; Antibiotics
Pengidentifikasi/kata kunci:	carbapenemase; carbapenemase-producing carbapenem-resistant Enterobacterales; phenotypic methods; GES-5; evaluation; infection control

Judul:	Comparative Evaluation of the Modified Carbapenem Inactivation Method for Phenotypic Detection of Guiana Extended-Spectrum β-Lactamase-Type Carbapenemases in Enterobacterales
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Basis data:	Public Health Database

Is Serum-Ascites Vitamin D Gradient a Valid Marker for Diagnosing Spontaneous Bacterial Peritonitis in Patients with Cirrhotic Ascites?

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ABSTRAK (ENGLISH)

Objective

Spontaneous bacterial peritonitis (SBP) is considered the paradigmatic model of infection in patients with liver cirrhosis. Therefore, there is a need for an accurate and rapid method for SBP diagnosis. The aim of this study was to evaluate the validity of serum-ascites 25-hydroxyvitamin D (25-OH vitamin D) gradient (SADG) as a marker for diagnosing SBP in patients with cirrhotic ascites.

Methods

We conducted a cross-sectional analytic study of 88 patients with portal hypertensive ascites resulting from liver cirrhosis of any etiology. The demographic, clinical, and laboratory characteristics of the patients were recorded. The level of 25-OH vitamin D in serum and ascitic fluid was measured using high-performance liquid chromatography autoanalyzer. The SADG was calculated with the formula: 25-OH vitamin D in serum − 25-OH vitamin D in ascites.

Results

Vitamin D deficiency was detected in 89.8% of the studied patients. The SADG values ranged between 0 and 69.2 ng/mL, with a median value of 5.58 ng/mL. It was significantly lower in patients with SBP than in those without SBP (*P* = .004). The area under the curve for SADG in exclusion of SBP was 0.67 at a cutoff value of ≥5.57 ng/mL.

Conclusion

We found that SADG may be a valid marker of SBP in patients with cirrhotic ascites.

DETAIL

Subjek:	Vitamin deficiency; Liver cirrhosis; Ascites; Vitamin D; Peritonitis; Medical diagnosis
Pengidentifikasi/kata kunci:	vitamin D deficiency; spontaneous bacterial peritonitis; diagnosis; marker; serum-ascites 25-OH vitamin D gradient; cirrhotic ascites

Judul:	Is Serum-Ascites Vitamin D Gradient a Valid Marker for Diagnosing Spontaneous Bacterial Peritonitis in Patients with Cirrhotic Ascites?
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The Impact of COVID-19 Containment Actions on Extra-Analytical Phases of the Clinical Laboratory: A Case Report

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ABSTRAK (ENGLISH)

Laboratory information systems need to adapt to new demands created by the COVID-19 pandemic, which has set up new normals like containment measures and social distancing. Some of these have negatively impacted the pre- and postanalytical phases of laboratory testing. Here, we present an intriguing finding related to the generation of the accession number/specimen number on the investigation module of a hospital management information system and its impact on the dissemination of reports resulting in the wrong release of reports on a female patient amidst the background of COVID-19 containment measures. We analyze the situation that led to this false reporting and the importance of the proper customization of information software in laboratories along with a robust postanalytical framework of laboratory work culture to avert such untoward incidents. This introspection has made us realize that COVID-19 has been a scientific, medical, and social challenge. We need to redefine our priorities in the days to come because SARS-CoV-2 is here to stay.

DETAIL

Subjek:	Laboratories; Information systems; Severe acute respiratory syndrome coronavirus 2; Coronaviruses; COVID-19; Case reports
Ketentuan indeks bisnis:	Subjek: Information systems
Pengidentifikasi/kata kunci:	laboratory errors; extra-analytical phase; hospital information management system; laboratory information system
Judul:	The Impact of COVID-19 Containment Actions on Extra-Analytical Phases of the Clinical Laboratory: A Case Report
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Pancreatic Cancer Insights: Optimization of the Diagnostic Capacity of Tumor Biomarkers

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ABSTRAK (ENGLISH)

Objective

Pancreatic cancer (PC) is one of the deadliest malignancies. The aim of this study was to determine the usefulness of the carbohydrate antigen 19.9 (CA19.9)/ carcinoembryonic antigen (CEA) ratio as a diagnostic tool.

Methods

This was a retrospective observational study (2015–2019), including laboratory requests with increased CA19.9 and CEA but no previous neoplasia. Receiver operating characteristic (ROC) curve analyses were performed for the CA19.9/CEA ratio and for CA19.9 and CEA alone for the detection of PC, and cutoff values for all strategies were selected separately and in combination.

Results

A total of 373 individuals were included. The area under the curve (AUC) for CA19.9/CEA was 0.872, whereas the AUC for CA19.9 was 0.847 and for CEA was 0.554. Cutoff values with the greatest diagnostic power were CA19.9/CEA >40, CA19.9 >1130 U/mL, and CEA >14.5 U/mL. The combination of CA19.9/CEA >40 with CA19.9 >550 U/mL maximized the diagnostic accuracy for PC.

Conclusion

Our results highlight the relevance of the measurement of serum CA19.9 and CEA in the detection of PC.

DETAIL

Subjek:	Pancreatic cancer; Antigens; Medical diagnosis
Pengidentifikasi/kata kunci:	gastrointestinal; clinical pathology; tumor marker; pancreas; clinical chemistry; management/administration
Judul:	Pancreatic Cancer Insights: Optimization of the Diagnostic Capacity of Tumor Biomarkers
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Basis data:	Public Health Database

Association of SLC22A1 , SLCO1B3 Drug Transporter Polymorphisms and Smoking with Disease Risk and Cytogenetic Response to Imatinib in Patients with Chronic Myeloid Leukemia

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ABSTRAK (ENGLISH)

Objective

To determine whether polymorphisms of *SLC22A1* and *SLCO1B3* genes could predict imatinib (IM) response and chronic myeloid leukemia (CML) risk.

Methods

We genotyped *SLC22A1 (c.480G >C, c.1222A >G)* and *SLCO1B3 (c.334T >G, c.699G >A)* polymorphisms in 132 patients with CML and 109 sex- and age-matched healthy subjects. The patients were evaluated for cytogenetic response by standard chromosome banding analysis (CBA).

Results

Polymorphism analysis showed significant increased risk of IM resistance for *SLC22A1c.1222AG* (*P* = .03; OR = 2.2), *SLCO1B3c.334TT/TG* genotypes (*P* = .007; OR = 4.37) and 334T allele (*P* = .03; OR = 2.86). The double combinations of *SLC22A1c.480CC* and *c.1222AG* polymorphisms with *SLCO1B3c.334TT/TG* were significantly associated with complete cytogenetic response (CCyR) (*P* <.05; OR> 7). The interaction between all polymorphisms and smoking were associated with CML development and IM resistance (*P* ≤.04; OR> 3).

Conclusions

Our study results suggest the influence of *SLC22A1* and *SLCO1B3* polymorphisms and the interaction of smoking on CML development and IM response.

DETAIL

Subjek:	Leukemia; Targeted cancer therapy; Inhibitor drugs
Pengidentifikasi/kata kunci:	chronic myeloid leukemia; complete cytogenetic response; imatinib mesylate; SLC22A1; SLCO1B3; smoke
Judul:	Association of SLC22A1 , SLCO1B3 Drug Transporter Polymorphisms and Smoking with Disease Risk and Cytogenetic Response to Imatinib in Patients with Chronic Myeloid Leukemia

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Whole-Exome Sequencing Reveals a Novel Mutation of FLNA Gene in an Iranian Family with Nonsyndromic Tetralogy of Fallot

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ABSTRAK (ENGLISH)

Objective

Tetralogy of Fallot (TOF) is one of the most common congenital abnormalities that need early intervention. Here, for the first time, we report a nonsyndromic form of TOF caused by a novel variant in the *FLNA* gene in 2 siblings of an Iranian family.

Methods

The family underwent a complete workup, including karyotyping, sequencing of 6 common genes in congenital heart diseases (*GATA4, NKX2-5, ZIC3, FOXH1, NODAL,* and *GJA1*), array comparative genomic hybridization, multiplex ligation-dependent probe amplification, and whole-exome sequencing. Segregation and in silico analysis were also conducted for the identified variant.

Results

A variant, c.3415C>T, in the *FLNA* gene was found in both affected brothers in this family; this variant was heterozygous in their mother. Bioinformatics tools predicted the variant as a pathogenic one.

Conclusion

Many allelic disorders have been reported for *FLNA* mutations. Mutations in this gene may cause a nonsyndromic congenital form of TOF.

DETAIL

Subjek: Mutation

Pengidentifikasi/kata kunci:	congenital heart disease; FLNA; whole-exome sequencing; mutation; tetralogy of Fallot; nonsyndromic
Judul:	Whole-Exome Sequencing Reveals a Novel Mutation of FLNA Gene in an Iranian Family with Nonsyndromic Tetralogy of Fallot
Pengarang:	Kalayinia, Samira1; Maleki, Majid1; Mahdavi, Mohammad1; Mahdieh, Nejat2 1 Cardiogenetic Research Center, Rajaie Cardiovascular Medical and Research Center, Iran University of Medical Sciences, Tehran, Iran2 Cardiogenetic Research Center, Rajaie Cardiovascular Medical and Research Center, Iran University of Medical Sciences, Tehran, Iran; Growth and Development Research Center, Tehran University of Medical Sciences, Tehran, Iran
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Basis data:	Public Health Database

Evaluation of Polarized Light and Fluorescence Microscopy of Congo Red Stain in the Diagnosis of Renal Amyloidosis

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Background

Amyloidosis is a devastating multisystemic disease resulting from organ deposition of misfolded proteins and subsequent organ dysfunction. An accurate diagnosis relies frequently on biopsies and microscopy techniques to detect amyloid deposition. We evaluated the diagnostic performance of Congo red staining using polarized light (PM) and fluorescence microscopy (FM) techniques in renal amyloidosis.

Methods

We performed a retrospective and prospective analysis of all renal biopsies submitted at a large quarternary hospital in Sydney, Australia, that had undergone PM and FM evaluation using Congo red staining. Identification of amyloid fibrils on electron microscopy was considered the reference method.

Results

PM and FM displayed very high sensitivity and specificity in correctly identifying amyloid deposits in renal biopsies that tested positive via Congo red staining. Comparison of the diagnostic statistics revealed that they are diagnostically equivalent.

Conclusion

In the diagnosis of renal amyloidosis on biopsy, evaluation of Congo red staining may be reliably performed via PM or FM.

DETAIL

Subjek:	Amyloidosis; Microscopy; Biopsy; Medical diagnosis
Pengidentifikasi/kata kunci:	amyloidosis; biopsies; Congo red staining; fluorescence; microscopy; polarized microscopy
Judul:	Evaluation of Polarized Light and Fluorescence Microscopy of Congo Red Stain in the Diagnosis of Renal Amyloidosis
Pengarang:	Lee, Adrian Y S1 ; Bayly, Angela2; Ming-Wei, Lin11 ICPMR and NSW Health Pathology, Westmead Hospital, Westmead, NSW, Australia; Sydney Medical School, The University of Sydney, Westmead, NSW, Australia2 ICPMR and NSW Health Pathology, Westmead Hospital, Westmead, NSW, Australia
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MALDI-TOF-MS Analysis in the Discovery and Identification of the Serum Peptide Pattern of Pancreatic Ductal Adenocarcinoma

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Objective

To explore the application of serum peptidomics in the early diagnosis of pancreatic ductal adenocarcinoma (PDAC).

Methods

The serum specimens from 176 patients with PDAC and 158 healthy control patients were subjected to matrix-assisted laser desorption ionization time-of-flight mass spectrometry to obtain serum peptide profiles. Next, a classification model by differentiated peptides was established and verified to distinguish the 2 groups. Finally, the peptides were identified by tandem mass spectrometry.

Results

A classification model was established by 13 peptides. For patients with PDAC in the early stage, the sensitivity and specificity of the model reached 100% and 96.7%, respectively. The amino acid sequences of the 13 peptides were then determined and the types of proteins were identified, including platelet basic protein, fibrinogen alpha, complement C3, and secreted frizzled-related protein 4. Some of the 13 peptides could be potential PDAC biomarkers.

Conclusion

Serum peptidomics may have potential application in the early diagnosis of PDAC.

DETAIL

Subjek:	Cancer; Mass spectrometry; Scientific imaging; Peptides; Ions

Pengidentifikasi/kata kunci:	pancreatic ductal adenocarcinoma; serum peptidomics; MALDI-TOF; mass spectrometry; gastrointestinal; clinical chemistry
Judul:	MALDI-TOF-MS Analysis in the Discovery and Identification of the Serum Peptide Pattern of Pancreatic Ductal Adenocarcinoma
Pengarang:	Huang, Yuan1; Chen, Feng2; Zhang, Linglin1; Lv, Qian3; Yan, Jun3; Cui, Wei21 Department of Clinical Laboratory, Peking Union Medical College Hospital, Dongcheng District, Beijing, China2 Department of Clinical Laboratory, Cancer Hospital, Chinese Academy of Medical Sciences, Chaoyang District, Beijing, China3 Bioyong Technologies Inc., Changping District, Beijing, China
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Performance Evaluation of the Siemens SARS-CoV-2 Total Antibody and IgG Antibody Test

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Objective

In this study, the performance of 2 commercially available SARS-CoV-2 antibody assays is evaluated.

Methods

The Siemens SARS-CoV-2 Total (COV2T) and IgG (COV2G) antibody tests were evaluated on a Siemens Atellica IM1300 analyzer. Imprecision was assessed with the CLSI EP15 protocol using positive controls. Ninety control group specimens were analyzed for specificity, and 175 specimens from 58 patients with polymerase chain reaction–confirmed SARS-CoV-2 were measured for the sensitivity and kinetics of the antibody response.

Results

Within-run and total imprecision were acceptable for both assays. Both tests showed a specificity of 100%. Sensitivity earlier in the disease state was greater for the COV2T assay than for the COV2G assay, but sensitivity >14 days after onset of symptoms approached 100% for both. For all patients, antibody titers remained above the seroconversion cutoff for all follow-up specimens.

Conclusion

This study shows acceptable performance for both the Siemens COV2T and COV2G test, although seroconversion occurs earlier with the COV2T test.

DETAIL

Subjek:	Antibodies; Severe acute respiratory syndrome coronavirus 2
Pengidentifikasi/kata kunci:	COVID-19; SARS-CoV-2; serology; antibody kinetics; performance evaluation; immunoassay

Judul:	Performance Evaluation of the Siemens SARS-CoV-2 Total Antibody and IgG Antibody Test
Pengarang:	Florin, Lisa1 ; Maelegheer, Karel1; Vandewal, Wouter1; Bernard, Dirk1; Robbrecht, Johan11 Department of Clinical Biology, AZ Sint-Lucas Brugge, Bruges, Belgium
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MicroRNA-138 Regulates T-Cell Function by Targeting PD-1 in Patients with Hepatitis B Virus–Related Liver Diseases

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ABSTRAK (ENGLISH)

Objective

T-cell exhaustion in hepatitis B virus (HBV) infection, which results from upregulation of programmed cell death-1 (PD-1), leads to persistent HBV infection and related disease progression. Therefore, agents targeting PD-1 may prove beneficial in the treatment of this condition. MicroRNA-138 (miR-138) possesses an anti-tumor ability in that it targets immune checkpoints, including PD-1. However, the function and underlying mechanisms of miR-138 in patients with HBV infection remains unclear.

Methods

Specimens were collected from healthy volunteers (n = 43) and patients with chronic hepatitis B (CHB; n = 52), liver cirrhosis (LC; n = 26), and hepatocellular carcinoma (HCC; n = 31); carriers of HBV who were asymptomatic (n = 51); and patients with CHB receiving antivirus treatment (n = 11). These specimens were then used to study the expression and relationship among miR-138, PD-1, and HBV DNA viral load. To investigate the role of miR-138 in regulating PD-1 expression and determine the effect of miR-138 in regulating T-cell function, a luciferase assay and a transfection assay were each performed with primary $CD3^+$ T cells.

Results

We found that PD-1 was upregulated and miR-138 was downregulated in patients with CHB, LC, and HCC. Correlations analysis revealed that PD-1 expression was positively correlated with HBV DNA viral load whereas miR-138 was negatively correlated. Luciferase assay results showed that miR-138 directly inhibited PD-1 expression by interacting with the 3'-untranslated region of PD-1. As a result of miR-138 overexpression in primary T cells, PD-1 in these T cells was downregulated and antivirus cytokines secreted by T cells were significantly upregulated. In addition, the expression levels of PD-1 and miR-138 were reversed in patients with CHB who received antivirus treatments.

Conclusion

Results showed that miR-138 can promote T-cell responses within patients with HBV infection by inducing a PD-1 blockade. Such an effect suggests that miR-138 may serve as a new therapeutic target for the treatment of HBV infection.

DETAIL

Subjek:	Lymphocytes; Infections; MicroRNAs; Interferon; Hepatitis B; Liver cirrhosis
Pengidentifikasi/kata kunci:	HBV-related liver diseases; miR-138; T cells; PD-1
Judul:	MicroRNA-138 Regulates T-Cell Function by Targeting PD-1 in Patients with Hepatitis B Virus–Related Liver Diseases
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Contradictory Phenomenon Between Serum Separator Tube and Plasma Tube: A Case Report

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Separator gels in blood collection tubes are used to separate serum from clotted whole blood or plasma from cells. Here we present a case of a patient with a contradictory phenomenon between the serum separator tube and the plasma tube. The serum separator tube showed mixed serum and separator gel and distinctly less serum. However, the plasma tube showed fewer cells. Laboratory study revealed an IgG level of 78.9 g/L. Serum immunofixation electrophoresis analysis identified the abnormal pattern as a dense IgG band with a corresponding dense light chain band of λ. Bone marrow smear showed 53% proplasmacytes. The patient was diagnosed with multiple myeloma. The marked hyperproteinemia, especially hyperimmunoglobulinemia, may have resulted in the density alteration of serum that was mixed or located above the separator gel. This phenomenon is also seen in patients injected with iodinated radiologic contrast media such as iohexol and in patients on hemodialysis with a concentrated sodium citrate solution.

DETAIL

Subjek:	Plasma; Case reports
Pengidentifikasi/kata kunci:	case report; serum separator tube; plasma tube; multiple myeloma; density; hyperimmunoglobulinemia
Judul:	Contradictory Phenomenon Between Serum Separator Tube and Plasma Tube: A Case Report
Pengarang:	Pang, Lu1; Xing, Ying1; Xing, Lingsheng1; Miao, Linzi1; An, Chongwen1; Li, Haixia11 Department of Clinical Laboratory, Peking University First Hospital, Beijing, China
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Methodology to Evaluate Clinical Impact of 0/3 Hour High-Sensitivity Cardiac Troponin T Protocol on Managing Acute Coronary Syndrome in Daily Emergency Department Practice

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ABSTRAK (ENGLISH)

Objective

Sex-/age-differentiated cutoffs and the magnitude of serial changes in high-sensitivity cardiac troponins (hs-cTn) for acute coronary syndrome (ACS) diagnosis algorithms are still under discussion. This study presents a methodology to evaluate decision-making limits and to assess whether sex-specific cutoffs could improve diagnostic accuracy.

Methods

A high-sensitivity cardiac troponin T (hs-cTnT) 0-/3-hour protocol was adopted, applying the 2015 European Society of Cardiology Guidelines. Decision-making limits (99th percentile: 14 ng/L; delta change ≥ 30%) were agreed upon with the emergency department (ED) at the University Hospital of Siena in Siena, Italy. One-year requests (5177) for hs-cTnT serial determination were compared with the final International Classification of Diseases, 9th revision, clinical modifications diagnosis (contingency tables; receiver operating characteristic curves).

Results

The algorithm's capability to exclude or confirm ACS was verified by remarkable negative predictive value (97%) and high areas under the curve for the first troponin sampling (0.712), troponin sampling at 3 hours (0.789), and delta (0.744). The clinical utility for the general population—even those with comorbidities—accessing the ED was verified. Our data did not support a sex-differentiated cutoff utility because it would not have affected patient management.

Conclusion

This methodology allowed us to confirm the effectiveness of our decision-making limits.

DETAIL

Subjek:	Acute coronary syndromes; Decision making; Medical diagnosis
Pengidentifikasi/kata kunci:	troponin T; high-sensitivity cardiac troponin; acute coronary syndrome; NSTEMI; evidence-based practice; diagnostic accuracy
Judul:	Methodology to Evaluate Clinical Impact of 0/3 Hour High-Sensitivity Cardiac Troponin T Protocol on Managing Acute Coronary Syndrome in Daily Emergency Department Practice

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Basis data:	Public Health Database

Achondroplasia—First Report from India of a Rare FGFR3 Gene Variant

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ABSTRAK (ENGLISH)

The clinical manifestations of *FGFR3* sequence variations can vary from mild unnoticed short stature to neonatal lethal dwarfism and can be causative of phenotypes including achondroplasia, hypochondroplasia, and thanatophoric dysplasia. Clinical data describe an 11 month old girl with restricted growth and preserved intellect. She had rhizomelic short stature with peculiar facies but no Acanthosis nigricans. In view of the absence of the hotspot mutation c.1138 G>A/G>C (p.Gly380Arg), complete gene sequencing was done that revealed a rare sequence variation, NM_000142.4:c.1043C>G (p.Ser348Cys) in *FGFR3*. This sequence variation has not been reported from India so far. This report emphasizes the benefit of sequencing the whole gene in individuals who are negative for hotspot mutation of achondroplasia with strong clinical suspicion.

DETAIL

Subjek:	Pediatrics
Lokasi:	India
Pengidentifikasi/kata kunci:	pediatrics; genetics; molecular diagnostics; bone; bioinformatics
Judul:	Achondroplasia—First Report from India of a Rare FGFR3 Gene Variant
Pengarang:	Chaudhry, Chakshu1; Prabakaran, G1; Srivastava, Priyanka1; Das, Reena2; Kaur, Jasbir2; Panigrahi, Inusha1; Kaur, Anupriya11 Genetic Metabolic Unit, Department of Pediatrics, Advanced Pediatrics Centre, Post Graduate Institute of Medical Education and Research, Chandigarh, India2 Department of Hematology, Post Graduate Institute of Medical Education and Research, Chandigarh, India
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Analysis of Multiple Bands on Serum Protein Immunofixation Electrophoresis: Challenge in Interpretation of Clonality in a Patient with Light Chain–Predominant Multiple Myeloma

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ABSTRAK (ENGLISH)

Sera from patients with multiple myeloma usually display a single monoclonal immunoglobulin band on serum protein immunofixation electrophoresis. Multiple bands may be seen if the myeloma is bi- or triclonal or if the monoclonal immunoglobulin has rheumatoid factor activity. We describe a patient with light chain–predominant IgA lambda myeloma; the patient's serum displayed 2 spatially distinct bands reacting for alpha heavy and lambda light chains. The methods used to establish monoclonality are addressed.

DETAIL

Subjek:	Immunoglobulins; Multiple myeloma
Pengidentifikasi/kata kunci:	Monoclonal gammopathy; light chain predominant multiple myeloma; immune-subtraction; polymeric immunoglobulin chains; multiple bands in SIFE; serum free light chains
Judul:	Analysis of Multiple Bands on Serum Protein Immunofixation Electrophoresis: Challenge in Interpretation of Clonality in a Patient with Light Chain–Predominant Multiple Myeloma
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Loss and Reappearance of A Antigen After Chemotherapy Leading to Blood Group Discrepancy in Acute Myeloid Leukemia: A Case Report

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ABSTRAK (ENGLISH)

A male patient aged 11 years diagnosed with acute myeloid leukemia presented with complaints of fever, lethargy, and bleeding manifestations. On ordering red blood cells and platelet transfusion, his blood group was tested. Blood group discrepancy was observed in that forward grouping showed the O Rh D positive blood group and reverse grouping revealed the A Rh D positive. The patient's previous blood group record was O Rh D positive, and he had a transfusion history of O Rh D positive red blood cells and platelets in other hospital. Initial immunohematological workup results, including adsorption and heat elution, were consistent with the O Rh D-positive blood group, but further workups on follow-up after the commencement of chemotherapy showed that his original blood group was A Rh D positive, in which the A antigen expression was previously masked by the underlying disease condition of the patient. Hence, the correlation of laboratory results with clinical details and case history is an essential step in resolving such blood group discrepancies.

DETAIL

Subjek:	Antigens; Leukemia; Blood groups; Chemotherapy; Case reports
Pengidentifikasi/kata kunci:	acute myeloid leukemia; blood group discrepancy; hypomethylating agents; ABO blood group system; H antigen; chemotherapy; secretor status
Judul:	Loss and Reappearance of A Antigen After Chemotherapy Leading to Blood Group Discrepancy in Acute Myeloid Leukemia: A Case Report
Pengarang:	Prakash, Satya1; Mohapatra, Sonali2; Bhagavathi, M Sree1; Das, Niladri1; Ray, Gopal Krushna1 ; Mukherjee, Somnath1 1 Department of Transfusion Medicine, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India2 Department o f Transfusion Medicine, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India; Department of Medical Oncology Hematology, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India
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Cross-Institutional Evaluation of the Abbott ARCHITECT SARS-CoV-2 IgG Immunoassay

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Objective

To describe a cross-institutional approach to verify the Abbott ARCHITECT SARS-CoV-2 antibody assay and to document the kinetics of the serological response.

Methods

We conducted analytical performance evaluation studies using the Abbott ARCHITECT SARS-CoV-2 antibody assay on 5 Abbott ARCHITECT i2000 automated analyzers at 2 academic medical centers.

Results

Within-run and between-run coefficients of variance (CVs) for the antibody assay did not exceed 5.6% and 8.6%, respectively, for each institution. Quantitative and qualitative results agreed for lithium heparin plasma, EDTA-plasma and serum specimen types. Results for all SARS-CoV-2 IgG-positive and -negative specimens were concordant among analyzers except for 1 specimen at 1 institution. Qualitative and quantitative agreement was observed for specimens exchanged between institutions. All patients had detectable antibodies by day 10 from symptom onset and maintained seropositivity throughout specimen procurement.

Conclusions

The analytical performance characteristics of the Abbott ARCHITECT SARS-CoV-2 antibody assay within and between 2 academic medical center clinical laboratories were acceptable for widespread clinical-laboratory use.

DETAIL

Subjek:	Laboratories; Architects; Antibodies; Severe acute respiratory syndrome coronavirus 2
Pengidentifikasi/kata kunci:	antibody; COVID-19; EUA; immunoassay; SARS-CoV-2; serology
Judul:	Cross-Institutional Evaluation of the Abbott ARCHITECT SARS-CoV-2 IgG Immunoassay
Pengarang:	Wiencek, Joesph R1 ; Bachmann, Lorin M2; Dinwiddie, Kelly3; Miller, Greg W2; Bazydlo, Lindsay A L11 Department of Pathology, University of Virginia (UVA) School of Medicine, Charlottesville, Virginia2 Department of Pathology, Virginia Commonwealth University, Richmond, Virginia3 Medical Laboratories, University of Virginia Health System, Charlottesville, Virginia
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Need for Confirmatory Neutralization Tests for Hepatitis B Surface Antigen Tests in Populations with Intermediate Prevalence

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ABSTRAK (ENGLISH)

Objective

Hepatitis B surface antigen (HBsAg) is known as the hallmark of hepatitis B virus (HBV) infection. This study aimed to determine whether an HBsAg neutralization test is necessary to accurately interpret HBsAg test results.

Methods

Initially reactive HBsAg specimens from a 5-year period, with cutoff index values between 1.0 and 2.0, were subjected to neutralization confirmatory testing using an Elecsys HBsAg Confirmatory test kit (Roche Diagnostics GmbH. Mannheim, Germany).

Results

The neutralization test showed 46.1% positive (confirmed positive group) and 53.9% negative (confirmed negative group) results from the total specimens. Among the confirmed negative group, 79.5% of patients were confirmed to be negative for the current infection, whereas 4 patients in the chronic hepatitis B subgroup showed a neutralization percentage close to 40%. More than half of patients in the confirmed positive group were considered to be in the hepatitis B e antigen-negative inactive HBsAg carrier phase.

Conclusion

In populations with intermediate HBV prevalence, a neutralization test is necessary to confirm an HBsAg result and reduce the false positive and false negative rates of initial HBsAg tests.

DETAIL

Subjek:	Antigens; Hepatitis B
Pengidentifikasi/kata kunci:	immunology; HBsAg test; neutralization test; confirmatory assay; inactive carrier; false positivity
Judul:	Need for Confirmatory Neutralization Tests for Hepatitis B Surface Antigen Tests in Populations with Intermediate Prevalence
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Pretreatment of Body Fluid Specimens Using Hyaluronidase and Ultracentrifugation

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ABSTRAK (ENGLISH)

Objective

Viscous body fluids present challenges during clinical laboratory testing. The present study was conducted to evaluate the effectiveness of hyaluronidase (HYAL) and ultracentrifugation (UC) pretreatment for a variety of body fluids before clinical chemistry testing.

Methods

The following body fluids were evaluated: biliary/hepatic, cerebrospinal, dialysate, drain, pancreatic, pericardial, peritoneal/ascites, pleural, synovial, and vitreous. Analytes assessed included amylase, total bilirubin, cancer antigen 19-9, carcinoembryonic antigen, cholesterol, chloride, creatinine, glucose, lactate dehydrogenase, lipase, potassium, rheumatoid factor, sodium, total protein, triglycerides, urea nitrogen, and uric acid.

Results

Observed percentage differences between HYAL treated and untreated fluids were less than ±15% for all analytes investigated, with a small number showing statistical significance (P <.05). In addition, UC showed increased variability for limited body fluid/analyte combinations.

Conclusion

The HYAL treatment effectively reduced viscosity for body fluids. Validation of specimen pretreatment processes ensures acceptable analytical performance and the absence of unanticipated interferences.

DETAIL

Subjek:	Antigens; Body fluids
Pengidentifikasi/kata kunci:	hyaluronidase; ultracentrifugation; viscosity; body fluids; interference; validation
Judul:	Pretreatment of Body Fluid Specimens Using Hyaluronidase and Ultracentrifugation
Pengarang:	Sonia L La'ulu1; Turner, Devon R2; Zupan, Emily2; Genzen, Jonathan R31 ARUP Institute for Clinical and Experimental Pathology, Salt Lake City, Utah2 ARUP Laboratories, Salt Lake City, Utah3 ARUP Institute for Clinical and Experimental Pathology, Salt Lake City, Utah; ARUP Laboratories, Salt Lake City, Utah; Department of Pathology, University of Utah Health Sciences Center, Salt Lake City, Utah
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Strategies for Sustainability of University-Based Medical Laboratory Sciences Programs

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

The COVID-19 pandemic has taken a major toll on the economy and funding for public education. For that reason, the pandemic has a worrisome effect on the sustainability of university/college based Medical Laboratory Sciences MLS training programs. Stakeholders of university-based MLS programs include university administrators, students, clinical affiliates and faculty. Each group has specific goals and challenges that affect the sustainability of the program. This report details strategies that can be used to satisfy the goals specific to key stakeholders that lead to sustainability. These strategies apply in pandemic times and in the back-to-normal future.

DETAIL

Subjek:	Medical laboratories; Pandemics; Sustainability; COVID-19
Pengidentifikasi/kata kunci:	COVID-19; enrollment; pandemic; education; management/administration; sustainability; economy
Judul:	Strategies for Sustainability of University-Based Medical Laboratory Sciences Programs
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Sky High or Undetectable? A Patient with Discordant Hemoglobin A1c

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

A female patient aged 47 years presented with a hemoglobin A1c (HbA1c) level of 54.6%, as measured by ion-exchange high-performance liquid chromatography (HPLC), and a glucose level of 106 mg/dL. The HbA1c was re-evaluated using a turbidimetric inhibition immunoassay and found below the level of detection. Hemoglobinopathy testing led to the identification of a hemoglobin variant consistent with Hb Raleigh, in which a valine → alanine substitution on the beta chain effects a charge difference, resulting in coelution with HbA1c on HPLC and a

spuriously high reading. Many Hb variants may interfere with HbA1c measurement and generate misleading results. The unique properties of Hb Raleigh may give rise to analytical errors when evaluating HbA1c using 2 different methods—molecular charge–based (eg, HPLC) and molecular structure–based (eg, immunoassay)—yielding diametrically opposed results. Consequently, recognition and diagnosis of this entity are essential in patients with Hb Raleigh, especially when monitoring long-term glucose control.

DETAIL

Subjek:	Hemoglobin; Immunoassay
Pengidentifikasi/kata kunci:	hemoglobin; variant; immunoassay; high-performance liquid chromatography; A1c; Hb Raleigh
Judul:	Sky High or Undetectable? A Patient with Discordant Hemoglobin A1c
Pengarang:	Lee, Patricia1; Chambliss, Allison B1 ; Marin, Maximo J11 Department of Pathology, Keck School of Medicine, University of Southern California, Los Angeles, California, USA
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Clinical Utility of Midregional Proadrenomedullin in Patients with COVID-19

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ABSTRAK (ENGLISH)

Objective

The aim of the study was to assess the role of midregional proadrenomedullin (MR-proADM) in patients with COVID-19.

Methods

We included 110 patients hospitalized for COVID-19. Biochemical biomarkers, including MR-proADM, were measured at admission. The association of plasma MR-proADM levels with COVID-19 severity, defined as a requirement for mechanical ventilation or in-hospital mortality, was evaluated.

Results

Patients showed increased levels of MR-proADM. In addition, MR-proADM was higher in patients who died during hospitalization than in patients who survived (median, 2.59 nmol/L; interquartile range, 2.3–2.95 vs median, 0.82

nmol/L; interquartile range, 0.57–1.03; *P* <.0001). Receiver operating characteristic curve analysis showed good accuracy of MR-proADM for predicting mortality. A MR-proADM value of 1.73 nmol/L was established as the best cutoff value, with 90% sensitivity and 95% specificity (*P* <.0001).

Conclusion

We found that MR-proADM could represent a prognostic biomarker of COVID-19.

DETAIL

Subjek:	Biomarkers; Coronaviruses; COVID-19
Pengidentifikasi/kata kunci:	biomarker; COVID-19; inflammation; MR-proADM; respiratory disease
Judul:	Clinical Utility of Midregional Proadrenomedullin in Patients with COVID-19
Pengarang:	Bruna Lo Sasso1; Gambino, Caterina Maria2; Scichilone, Nicola3; Giglio, Rosaria Vincenza2; Bivona, Giulia2; Scazzone, Concetta2; Muratore, Roberto4; Milano, Salvatore4; Barbagallo, Mario5; Agnello, Luisa2; Ciaccio, Marcello1 1 Department of Biomedicine, Neurosciences and Advanced Diagnostics, Institute of Clinical Biochemistry, Clinical Molecular Medicine and Laboratory Medicine, University of Palermo, Palermo, Italy; Department of Laboratory Medicine, AOUP P. Giaccone, Palermo, Italy2 Department of Biomedicine, Neurosciences and Advanced Diagnostics, Institute of Clinical Biochemistry, Clinical Molecular Medicine and Laboratory Medicine, University of Palermo, Palermo, Italy3 Department of Health Promotion Sciences, Maternal and Infant Care, Internal Medicine and M edical Specialties, University of Palermo, Palermo, Italy4 Department of Laboratory Medicine, AOUP P. Giaccone, Palermo, Italy5 Department of Internal Medicine and Geriatrics, Geriatric Unit, University of Palermo, Italy
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| **Basis data:** | Public Health Database |

Smudge Cells in Chronic Lymphocytic Leukemia: Pathophysiology, Laboratory Considerations, and Clinical Significance

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Chronic lymphocytic leukemia (CLL) is the most commonly encountered leukemia in the clinical laboratory. Cytoskeletal defects in CLL lymphocytes can result in the formation of up to 75% smudge cells (SCs) during blood film preparation. Failure to account for these damaged lymphocytes in the white blood cell (WBC) differential diminishes the accuracy and reproducibility of the results. Lacking clear practice standards on handling SCs in CLL, different laboratories may employ different methods to mitigate SC-induced errors. This review explores the

pathophysiology of SCs, their effect on WBC differentials in CLL, and how these results can impact clinical decisions. The pros and cons of various SC corrective methods are described to assist laboratories in developing an optimized protocol to reduce errors and inconsistencies in WBC differentials. Finally, the potential utility of SC enumeration as an indicator of CLL prognosis is discussed in terms of laboratories with differing access to technology.

DETAIL

Subjek:	Laboratories; Leukemia; Pathophysiology; Clinical significance; Medical prognosis
Pengidentifikasi/kata kunci:	chronic lymphocytic leukemia; smudge cells; WBC differential; lymphocyte doubling time; absolute lymphocyte count; lymphocyte cytoskeleton; CLL prognosis; CLL
Judul:	Smudge Cells in Chronic Lymphocytic Leukemia: Pathophysiology, Laboratory Considerations, and Clinical Significance
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Usage of Plasma Presepsin, C-Reactive Protein, Procalcitonin and Proadrenomedullin to Predict Bacteremia in Febril Neutropenia of Pediatric Hematological Malignancy Patients

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Link dokumen ProQuest

ABSTRAK (ENGLISH)

Objective

To investigate the value of presepsin and proadrenomedullin (proADM) as new markers for febrile neutropenia, by comparing them with conventional markers.

Methods

Plasma specimens for presepsin, proADM, C-reactive protein (CRP), and procalcitonin (PCT) were collected every 3 days during each episode of febrile neutropenia.

Results

A total of 39 patients experiencing a collective 47 episodes of febrile neutropenia with hematological malignant neoplasms, as well as 40 healthy control patients without infectious disease, were enrolled in this study. Levels of the studied analytes in the presepsin 1 group (with baseline values taken at admission), presepsin 2 group (values recorded on the 3rd day of febrile neutropenia), and presepsin 3 group (values recorded on the 6th day of hospitalization) were all higher in the subgroups with bacteremia. C-reactive protein 1 (baseline value taken at admission), procalcitonin 1 (as recorded at admission), and procalcitonin 2 (recorded on the 3rd day of febrile neutropenia) were higher in the subroups with bacteremia (P =.03, P = .04, and P = .04, respectively). In multivariate logistic regression analysis, presepsin 1 and/or PCT 1/CRP 1 combined analysis was superior in predicting bacteremia.

Conclusion

Presepsin could be used in combination with other biomarkers to detect bacteremia.

DETAIL

Subjek:	Neutropenia; Hematology; Proteins; Pediatrics
Pengidentifikasi/kata kunci:	febrile neutropenia; bacteremia; presepsin; proadrenomedullin; C-reactive protein; procalcitonin
Judul:	Usage of Plasma Presepsin, C-Reactive Protein, Procalcitonin and Proadrenomedullin to Predict Bacteremia in Febril Neutropenia of Pediatric Hematological Malignancy Patients
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Is It Time for a Broader Call to Learn the Language of Pathology and Laboratory Medicine?

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Link dokumen ProQuest

DETAIL

Judul:	Is It Time for a Broader Call to Learn the Language of Pathology and Laboratory Medicine?

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Direct Amplification of Whole Blood and Amniotic Fluid Specimens for Prenatal and Postnatal Diagnosis of Hb E-β ^{0} -Thalassemia Diseases

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ABSTRAK (ENGLISH)

Objective

Prenatal and postnatal diagnosis of hemoglobin E-β ^{0}-thalassemia can be made using polymerase chain reaction (PCR) analysis mostly on purified DNA. We have establihed a direct amplification method without DNA extraction on whole blood (WB) and amniotic fluid (AF) specimens to diagnose the disease.

Methods

Three reactions of WB PCR assays and 7 reactions of AF PCR tests were developed for postnatal and prenatal diagnosis, respectively. Assays were validated against routine tests in a blinded trial.

Results

The results showed 100% concordance with routine DNA PCR assays. Among 309 β-thalassemia carriers, 191 patients (61.8%) carried common β-thalassemia mutations. Among 448 AF specimens, 116 (25.9%) fetuses were found to be affected, 247 (55.1%) fetuses were carriers, and 85 (19%) fetuses were unaffected.

Conclusion

We found that WB and AF PCR assays are simple, rapid, and reliable. The developed techniques could be applicable in routine settings.

DETAIL

Subjek:	Fetuses; Blood diseases; Amniotic fluid; Medical diagnosis
Pengidentifikasi/kata kunci:	direct amplification; whole blood; amniotic fluid; carrier identification; prenatal diagnosis; Hb E-β0 -thalassemia
Judul:	Direct Amplification of Whole Blood and Amniotic Fluid Specimens for Prenatal and Postnatal Diagnosis of Hb E-β0 -Thalassemia Diseases

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Basis data:	Public Health Database

Lymphocyte Aggregation in Low-Grade B-Cell Lymphoma

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ABSTRAK (ENGLISH)

Platelet and erythrocyte agglutination is known to happen in vitro due to EDTA or temperature-induced cold antibodies. Leukocyte agglutination is far less common, and its etiology is not always known. The 2 cases presented herein are of low-grade B-cell lymphomas consistent with splenic marginal-zone lymphoma that presented with lymphocyte agglutination. In Case A, the lymphocyte aggregates were not resolved by warming the sample or by non-EDTA anticoagulation. In Case B, the lymphocyte aggregates were largely resolved by warming the specimen at 37°C for 15 minutes. The 2 cases presented herein further show that the etiology of lymphocyte aggregation can have multiple causes, even within the same disease process.

DETAIL

Subjek:	Lymphocytes; Lymphoma
Pengidentifikasi/kata kunci:	splenic marginal zone lymphoma; lymphocyte aggregates; lymphocyte agglutination; low grade B-cell lymphoma; lymphocytosis; leukocytosis; atypical lymphocytes
Judul:	Lymphocyte Aggregation in Low-Grade B-Cell Lymphoma
Pengarang:	Walradth, Eric A11 Hematology Oncology Associates of Central New York, East Syracuse, NY
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Daftar Pustaka

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Mongelli, F., Giuseppe, M. D., Porcellini, I., Proietti, F., Cristaudi, A., Pini, R., & Regina, D. L. (2021). Liver blood tests in the management of suspected choledocholithiasis. Labmedicine, 52(6), 597-602. doi:https://doi.org/10.1093/labmed/lmab042

Objective The likelihood of common bile duct (CBD) stones considers liver blood tests (LBTs) if they are markedly altered only. The aim of our study was to find a reliable tool based on LBTs to predict the presence of CBD stones. Methods We retrospectively considered all patients who underwent magnetic resonance cholangiopancreatography (MRCP) because of suspected CBD stones from January 2014 to June 2019. Demographic, clinical data, and LBT values were collected and analyzed. Results We selected 191 patients, 64 (33.5%) with positive MRCP and 127 (66.5%) with negative MRCP. The analysis showed that our compound LBT-based score had 83.6%, 90.7%, and 90.6% sensitivity, specificity, and negative predictive values, respectively, in determining MRCP results. Conclusion We designed a weighted score with high diagnostic power in determining MRCP results that could help in differentiating between candidates for primary cholecystectomy and patients who benefit from preoperative MRCP.

Bakht, A., Turner, B., Warren, C. S., Simmons, J. H., & Fadeyi, E. A. (2021). Anti-S antibody: A rare cause of fetal hydrops in a previously sensitized mother. Labmedicine, 52(6), 609-613. doi:https://doi.org/10.1093/labmed/lmab014

Anti-S is an IgG antibody and a rare cause of hemolytic disease of the fetus and newborn. A 38 year old woman with blood group O Rh-positive presented to the hospital at 30 weeks gestation. Her past medical history was significant for sickle cell disease and alloantibodies against the Fya, Jkb, and S antigens. Obstetric ultrasound showed the fetus to have developed scalp edema, cardiomegaly, small pericardial effusion, and large ascites. Periumbilical blood sampling results showed the fetus blood type as blood group O Rh-positive with anti-S and hemoglobin of 2 gm/dL. After multiple intrauterine transfusions of red blood cells, the fetal hemoglobin increased to 12.9 g/dL. Anti-S can cause fetal hydrops, although it is rare. All pregnant women with anti-S should be closely monitored and treated during pregnancy for the possibility of developing a severe hemolytic disease of the fetus and newborn.

Xie, W., Lin, J., Xue, N., Teng, J., Wang, Y., Yang, L., . . . Fang, Y. (2021). Relationship between gene polymorphism of methylenetetrahydrofolate reductase C677T and left ventricular hypertrophy in chinese patients with chronic kidney disease. Labmedicine, 52(6), 519-527. doi:https://doi.org/10.1093/labmed/lmab004

Objective This study aimed to investigate the relationship between the gene polymorphism of methylenetetrahydrofolate reductase (MTHFR) C677T and left ventricular hypertrophy (LVH) in patients with chronic kidney disease (CKD). Methods A total of 763 Chinese patients with CKD undergoing genetic testing were included in the study. The association between the gene polymorphism of MTHFR C677T and echocardiographic parameters was analyzed through univariate and multivariate analyses. Results We found a remarkably positive association between MTHFR C677T gene polymorphism and LVH indexes, including interventricular septal thickness (F = 3.8; P = .022), left ventricular posterior wall thickness (F = 3.0; P = .052), left ventricular mass (F = 3.9; P = .022), and left ventricular mass index (F = 2.6; P = .075). After adjusting for the potential confounders linking the polymorphism,we found that the positive association between the polymorphism and LVH indexes still existed in patients with CKD in some multiple linear regression models (P <.05). Conclusion MTHFR C677T gene polymorphism may be a genetic susceptibility marker for the development of LVH in patients with CKD.

Thakur, P., Saxena, S., Manchanda, V., Rana, N., Goel, R., & Arora, R. (2021). Utility of antigen-based rapid diagnostic test for detection of SARS-CoV-2 virus in routine hospital settings. Labmedicine, 52(6), e154-e158. doi:https://doi.org/10.1093/labmed/lmab033

Objective This study aims to evaluate the performance of an antigen-based rapid diagnostic test (RDT) for the detection of the SARS-CoV-2 virus. Methods A cross-sectional study was conducted on 677 patients. Two nasopharyngeal swabs and 1 oropharyngeal swab were collected from patients. The RDT was performed onsite by a commercially available immune-chromatographic assay on the nasopharyngeal swab. The nasopharyngeal and

oropharyngeal swabs were examined for SARS-CoV-2 RNA by real-time reverse-transcription quantitative polymerase chain reaction (RT-qPCR) assay. Results The overall sensitivity of the SARS-CoV-2 RDT was 34.5% and the specificity was 99.8%. The positive predictive value and negative predictive value of the test were 96.6% and 91.5%, respectively. The detection rate of RDT in RT-qPCR positive results was high (45%) for cycle threshold values <25. Conclusion The utility of RDT is in diagnosing symptomatic patients and may not be particularly suited as a screening tool for patients with low viral load. The low sensitivity of RDT does not qualify its use as a single test in patients who test negative; RT-qPCR continues to be the gold standard test.

Noulsri, E., Lerdwana, S., Palasuwan, D., & Palasuwan, A. (2021). Cell-derived microparticles in blood products from blood donors deficient in glucose-6-phosphate dehydrogenase. Labmedicine, 52(6), 528-535. doi:https://doi.org/10.1093/labmed/lmab007

Objective To quantitate the microparticles (MPs) in whole blood and blood products obtained from blood donors who are deficient in glucose-6-phosphate dehydrogenase (G6PD). Methods The current study analyzed whole blood and blood components prepared from 49 blood donors with G6PD deficiencies and 98 with G6PD-normal results. Packed red blood cells (PRBCs), platelet concentrate (PC), and plasma were prepared according to transfusion laboratory procedures. MP concentrations were determined using a flow cytometer. Results Blood components prepared from donors with G6PD deficiency were characterized by higher red blood cell-derived MP (RMP) concentration in PRBCs (25,526 vs 18,738 particles/μL) but lower concentrations of platelet-derived MPs (PMPs; in whole blood and PC), leukocyte-derived MPs (LMP; in whole blood and plasma) and total MP (in PC), compared with those from donors with G6PD-normal test results. Conclusions These results suggest that differences in G6PD status may account for variation in RMP levels during processing.

Szewc, A. M., Bell, M. E., Kelly, A. J., Humrighouse, B. W., & McQuiston, J. R. (2021). Using the BDFX40 automated continuous blood culture system to isolate and recover streptobacillus moniliformis in the presence of 0.05% SPS: A 55-year, 56-strain retrospective study. Labmedicine, 52(6), 536-549. doi:https://doi.org/10.1093/labmed/lmab009

Rat bite fever and Haverhill fever are often difficult to diagnose in a clinical setting. This difficulty results in part from clinicians and laboratory professionals not being able to reliably recover the causative agent Streptobacillus moniliformis using culture-based methods. After utilizing an automated continuous-monitoring blood culture bottle system, we showed that the organism can be reliably cultured when a blood volume inoculum of 10 mL is used. Further, we showed that when the above recommendation is followed, sodium polyanethole sulfonate (up to a concentration of 0.05% w/v) in commercially purchased blood culture bottle formulations seems to be inactivated, allowing for the growth and detection of S. moniliformis. Herein, we offer data and methods used to overcome these clinical limitations. This is a comprehensive study of the historical collection of S. moniliformis isolates maintained by our facility and believed to be the largest of its kind to date.

Lu, L., Qi, Y., Chen, H., Hu, Z., Yang, S., Qin, S., . . . Qin, X. (2021). D-dimer combined with CRP can improve the differential value of bacterial meningitis and tuberculous meningitis. Labmedicine, 52(6), 603-608. doi:https://doi.org/10.1093/labmed/lmab005

Objective To explore the diagnostic value of the coagulation marker D-dimer and its combination with the traditional marker C-reactive protein (CRP) in distinguishing bacterial meningitis (BM) from tuberculous meningitis (TM). Methods We performed a retrospective study on specimens from 173 patients with meningitis who were hospitalized at the First Affiliated Hospital of Guangxi Medical University, Guangxi, China, from 2012 through 2020. The patient records were divided into the BM group and the TM group, and hematological parameters D-dimer and CRP were evaluated for the 2 groups. Results The levels of D-dimer and CRP in the BM group were significantly higher than those levels in the TM group (P ˂.001 for each), and the sensitivity and specificity of the combined detection of the 2 markers was 86.3% to 100%; the area under the receiver operating characteristic (ROC) curve reached 0.983 (95% confidence interval CI], 0.966–0.999). Conclusion D-dimer testing has high specificity in distinguishing between BM and TM; CRP testing also has high sensitivity. The combined diagnosis of the 2 biomarkers helps to distinguish TM

from BM.

A-Jin, L., & Suh, H. S. (2021). Comparative evaluation of the modified carbapenem inactivation method for phenotypic detection of guiana extended-spectrum β-lactamase-type carbapenemases in enterobacterales. Labmedicine, 52(6), 578-583. doi:https://doi.org/10.1093/labmed/lmab026

Objective We comparatively evaluated the performance of 3 phenotypic tests for the detection of carbapenemase production. Materials and Methods Carbapenemase production was evaluated using the modified Hodge test (MHT), the modified carbapenemase inhibition method (mCIM), and the Rapidec Carba NP test (RCNP). Results Among the 170 isolates, 79 were CP-CRE and 91 were non-CP-CRE. The CP-CRE isolates produced GES-5 (n = 66), KPC (n = 4), NDM (n = 7), NDM and OXA-48 (n = 1), and VIM (n = 1). For KPC producers, all 3 methods showed a sensitivity of 75%. The sensitivities of MHT, mCIM, and RCNP were 14.3%, 100%, and 71.4%, respectively, for NDM producers, and 1.5%, 12.1%, and 18.2% for GES-5 producers, respectively. Conclusion The performance of the phenotypic tests varied depending on the type of carbapenemase. For intensive infection control, phenotypic and molecular tests are required for the detection of common and rare types of carbapenemases.

Hanan, A. H., Madani, H., Shereen, A. A., Farrag, A., Fathy, W., & Abdo, M. (2021). Is serum-ascites vitamin D gradient a valid marker for diagnosing spontaneous bacterial peritonitis in patients with cirrhotic ascites? Labmedicine, 52(6), 567-573. doi:https://doi.org/10.1093/labmed/lmab019

Objective Spontaneous bacterial peritonitis (SBP) is considered the paradigmatic model of infection in patients with liver cirrhosis. Therefore, there is a need for an accurate and rapid method for SBP diagnosis. The aim of this study was to evaluate the validity of serum-ascites 25-hydroxyvitamin D (25-OH vitamin D) gradient (SADG) as a marker for diagnosing SBP in patients with cirrhotic ascites. Methods We conducted a cross-sectional analytic study of 88 patients with portal hypertensive ascites resulting from liver cirrhosis of any etiology. The demographic, clinical, and laboratory characteristics of the patients were recorded. The level of 25-OH vitamin D in serum and ascitic fluid was measured using high-performance liquid chromatography autoanalyzer. The SADG was calculated with the formula: 25-OH vitamin D in serum − 25-OH vitamin D in ascites. Results Vitamin D deficiency was detected in 89.8% of the studied patients. The SADG values ranged between 0 and 69.2 ng/mL, with a median value of 5.58 ng/mL. It was significantly lower in patients with SBP than in those without SBP (P = .004). The area under the curve for SADG in exclusion of SBP was 0.67 at a cutoff value of ≥5.57 ng/mL. Conclusion We found that SADG may be a valid marker of SBP in patients with cirrhotic ascites.

Mahto, M., Kumar, M., Banerjee, A., & Kumar, S. (2021). The impact of COVID-19 containment actions on extra-analytical phases of the clinical laboratory: A case report. Labmedicine, 52(6), 619-625. doi:https://doi.org/10.1093/labmed/lmab036

Laboratory information systems need to adapt to new demands created by the COVID-19 pandemic, which has set up new normals like containment measures and social distancing. Some of these have negatively impacted the pre- and postanalytical phases of laboratory testing. Here, we present an intriguing finding related to the generation of the accession number/specimen number on the investigation module of a hospital management information system and its impact on the dissemination of reports resulting in the wrong release of reports on a female patient amidst the background of COVID-19 containment measures. We analyze the situation that led to this false reporting and the importance of the proper customization of information software in laboratories along with a robust postanalytical framework of laboratory work culture to avert such untoward incidents. This introspection has made us realize that COVID-19 has been a scientific, medical, and social challenge. We need to redefine our priorities in the days to come because SARS-CoV-2 is here to stay.

Delgado, J. A., Ballesteros, M. A., Parera, M. M., & Josep Miquel Bauça. (2021). Pancreatic cancer insights: Optimization of the diagnostic capacity of tumor biomarkers. Labmedicine, 52(6), 550-557. doi:https://doi.org/10.1093/labmed/lmab016

Objective Pancreatic cancer (PC) is one of the deadliest malignancies. The aim of this study was to determine the usefulness of the carbohydrate antigen 19.9 (CA19.9)/ carcinoembryonic antigen (CEA) ratio as a diagnostic tool. Methods This was a retrospective observational study (2015–2019), including laboratory requests with increased CA19.9 and CEA but no previous neoplasia. Receiver operating characteristic (ROC) curve analyses were performed for the CA19.9/CEA ratio and for CA19.9 and CEA alone for the detection of PC, and cutoff values for all strategies were selected separately and in combination. Results A total of 373 individuals were included. The area under the curve (AUC) for CA19.9/CEA was 0.872, whereas the AUC for CA19.9 was 0.847 and for CEA was 0.554. Cutoff values with the greatest diagnostic power were CA19.9/CEA >40, CA19.9 >1130 U/mL, and CEA > 14.5 U/mL. The combination of CA19.9/CEA > 40 with CA19.9 > 550 U/mL maximized the diagnostic accuracy for PC. Conclusion Our results highlight the relevance of the measurement of serum CA19.9 and CEA in the detection of PC.

Mohammadi, F., Rostami, G., Assad, D., Shafiei, M., Hamid, M., & Jalaeikhoo, H. (2021). Association of SLC22A1,SLCO1B3 drug transporter polymorphisms and smoking with disease risk and cytogenetic response to imatinib in patients with chronic myeloid leukemia. Labmedicine, 52(6), 584-596. doi:https://doi.org/10.1093/labmed/lmab023

Objective To determine whether polymorphisms of SLC22A1 and SLCO1B3 genes could predict imatinib (IM) response and chronic myeloid leukemia (CML) risk. Methods We genotyped SLC22A1 (c.480G > C, c.1222A > G) and SLCO1B3 (c.334T > G, c.699G > A) polymorphisms in 132 patients with CML and 109 sex- and age-matched healthy subjects. The patients were evaluated for cytogenetic response by standard chromosome banding analysis (CBA). Results Polymorphism analysis showed significant increased risk of IM resistance for SLC22A1c.1222AG (P = .03; OR = 2.2), SLCO1B3c.334TT/TG genotypes (P = .007; OR = 4.37) and 334T allele (P = .03; OR = 2.86). The double combinations of SLC22A1c.480CC and c.1222AG polymorphisms with SLCO1B3c.334TT/TG were significantly associated with complete cytogenetic response (CCyR) (P 7). The interaction between all polymorphisms and smoking were associated with CML development and IM resistance (P ≤.04; OR> 3). Conclusions Our study results suggest the influence of SLC22A1 and SLCO1B3 polymorphisms and the interaction of smoking on CML development and IM response.

Kalayinia, S., Maleki, M., Mahdavi, M., & Mahdieh, N. (2021). Whole-exome sequencing reveals a novel mutation of FLNA gene in an iranian family with nonsyndromic tetralogy of fallot. Labmedicine, 52(6), 614-618. doi:https://doi.org/10.1093/labmed/lmab018

Objective Tetralogy of Fallot (TOF) is one of the most common congenital abnormalities that need early intervention. Here, for the first time, we report a nonsyndromic form of TOF caused by a novel variant in the FLNA gene in 2 siblings of an Iranian family. Methods The family underwent a complete workup, including karyotyping, sequencing of 6 common genes in congenital heart diseases (GATA4, NKX2-5, ZIC3, FOXH1, NODAL, and GJA1), array comparative genomic hybridization, multiplex ligation-dependent probe amplification, and whole-exome sequencing. Segregation and in silico analysis were also conducted for the identified variant. Results A variant, c.3415C>T, in the FLNA gene was found in both affected brothers in this family; this variant was heterozygous in their mother. Bioinformatics tools predicted the variant as a pathogenic one. Conclusion Many allelic disorders have been reported for FLNA mutations. Mutations in this gene may cause a nonsyndromic congenital form of TOF.

Lee, A. Y. S., Bayly, A., & Ming-Wei, L. (2021). Evaluation of polarized light and fluorescence microscopy of congo red stain in the diagnosis of renal amyloidosis. Labmedicine, 52(6), 574-577. doi:https://doi.org/10.1093/labmed/lmab022

Background Amyloidosis is a devastating multisystemic disease resulting from organ deposition of misfolded proteins and subsequent organ dysfunction. An accurate diagnosis relies frequently on biopsies and microscopy techniques to detect amyloid deposition. We evaluated the diagnostic performance of Congo red staining using polarized light (PM) and fluorescence microscopy (FM) techniques in renal amyloidosis. Methods We performed a retrospective and prospective analysis of all renal biopsies submitted at a large quarternary hospital in Sydney,

Australia, that had undergone PM and FM evaluation using Congo red staining. Identification of amyloid fibrils on electron microscopy was considered the reference method. Results PM and FM displayed very high sensitivity and specificity in correctly identifying amyloid deposits in renal biopsies that tested positive via Congo red staining. Comparison of the diagnostic statistics revealed that they are diagnostically equivalent. Conclusion In the diagnosis of renal amyloidosis on biopsy, evaluation of Congo red staining may be reliably performed via PM or FM.

Huang, Y., Chen, F., Zhang, L., Lv, Q., Yan, J., & Cui, W. (2021). MALDI-TOF-MS analysis in the discovery and identification of the serum peptide pattern of pancreatic ductal adenocarcinoma. Labmedicine, 52(6), 558-566. doi:https://doi.org/10.1093/labmed/lmab024

Objective To explore the application of serum peptidomics in the early diagnosis of pancreatic ductal adenocarcinoma (PDAC). Methods The serum specimens from 176 patients with PDAC and 158 healthy control patients were subjected to matrix-assisted laser desorption ionization time-of-flight mass spectrometry to obtain serum peptide profiles. Next, a classification model by differentiated peptides was established and verified to distinguish the 2 groups. Finally, the peptides were identified by tandem mass spectrometry. Results A classification model was established by 13 peptides. For patients with PDAC in the early stage, the sensitivity and specificity of the model reached 100% and 96.7%, respectively. The amino acid sequences of the 13 peptides were then determined and the types of proteins were identified, including platelet basic protein, fibrinogen alpha, complement C3, and secreted frizzled-related protein 4. Some of the 13 peptides could be potential PDAC biomarkers. Conclusion Serum peptidomics may have potential application in the early diagnosis of PDAC.

Florin, L., Maelegheer, K., Vandewal, W., Bernard, D., & Robbrecht, J. (2021). Performance evaluation of the siemens SARS-CoV-2 total antibody and IgG antibody test. Labmedicine, 52(6), e147-e153. doi:https://doi.org/10.1093/labmed/lmab027

Objective In this study, the performance of 2 commercially available SARS-CoV-2 antibody assays is evaluated. Methods The Siemens SARS-CoV-2 Total (COV2T) and IgG (COV2G) antibody tests were evaluated on a Siemens Atellica IM1300 analyzer. Imprecision was assessed with the CLSI EP15 protocol using positive controls. Ninety control group specimens were analyzed for specificity, and 175 specimens from 58 patients with polymerase chain reaction–confirmed SARS-CoV-2 were measured for the sensitivity and kinetics of the antibody response. Results Within-run and total imprecision were acceptable for both assays. Both tests showed a specificity of 100%. Sensitivity earlier in the disease state was greater for the COV2T assay than for the COV2G assay, but sensitivity >14 days after onset of symptoms approached 100% for both. For all patients, antibody titers remained above the seroconversion cutoff for all follow-up specimens. Conclusion This study shows acceptable performance for both the Siemens COV2T and COV2G test, although seroconversion occurs earlier with the COV2T test.

Liu, W., Zheng, X., Wang, J., He, Q., Li, J., Zhang, Z., & Liu, H. (2021). MicroRNA-138 regulates T-cell function by targeting PD-1 in patients with hepatitis B Virus–Related liver diseases. Labmedicine, 52(5), 439-451. doi:https://doi.org/10.1093/labmed/lmaa110