

Domaći autori u međunarodnim publikacijama

Croatian authors in international publication

Šimundić AM, Nikolac N, Miler M, Čipak A, Topić E. Efficiency of test report delivery to the requesting physician in an outpatient setting: an observational study. Clin Chem Lab Med 2009;47:1063–6.

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BACKGROUND: Clinical laboratories accredited according to ISO 15189 quality standards are obliged to implement and continuously monitor quality indicators for evaluation of the laboratory's contribution to patient care. Reporting laboratory results to the requesting physician is one important phase of the clinical laboratory testing process. Failure to report results may indicate the ineffectiveness of the laboratory service. We aimed to analyze the proportion and type of laboratory reports for outpatients that were not delivered to the requesting physician. **METHODS:** This retrospective observational study was conducted during an 11-month period from January to December 2007 at our outpatient biochemistry laboratory unit. Data on demographic characteristics, request types and laboratory findings for all uncollected reports were retrieved from the laboratory information system and compared with one random 2-week representative period. **RESULTS:** During the study period our laboratory issued 22,445 patient reports with more than 150,000 biochemistry analyses. Of these, 464 (2.1%) were uncollected laboratory reports. When compared to the representative period, patients who never collected their laboratory reports were younger ($p < 0.001$) or suffering from some chronic disease. Routine biochemistry tests were the most prevalent (>50%). The majority of routine biochemistry tests were almost equally represented during the study and representative period, while molecular diagnostic tests were several times more frequently uncollected ($p < 0.001$). Reports with electrolytes, metabolites and glucose were the least likely to be uncollected ($p < 0.001$). The total cost for those tests was 30% of the average monthly laboratory budget. **CONCLUSIONS:** A significant amount of the laboratory budget is wasted for tests that never reach the requesting physician. Such misutilization of the laboratory reveals the substantial lack of medical necessity for test requests. Further studies are needed to explore the possible efficiency of the various interventions in reducing the volume of unnecessary and erroneous testing.

Romić Ž¹, Unić A¹, Derek L¹, Živković M¹, Marijančević D¹, Kes P², Pehar M³. Anti-citrullinated protein antibody and rheumatoid factor in patients with end-stage renal disease. Clin Chem Lab Med 2009;47:959–62.

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BACKGROUND: Patients with end-stage renal disease (ESRD) and on hemodialysis (HD) are at increased risk for developing rheumatoid arthritis (RA), as a result of defective immunity. Our aim was to examine if ESRD and the length of HD treatment impact the clinical utility of antibodies to cyclic citrullinated peptides (anti-CCP) and rheumatoid factor (RF) as diagnostic tools for RA. **METHODS:** We included 94 subjects in our study: 37 healthy volunteers and 57 patients with ESRD who had been undergoing HD for 1-12 years, and without confirmed RA. In order to test our hypothesis, we measured and correlated anti-CCP and RF as laboratory markers of RA. **RESULTS:** Our study showed that there is no significant difference between values for anti-CCP ($p = 0.11$) and RF ($p = 0.98$) in control subjects as well as in patients undergoing HD, regardless of the length of time that patients had been undergoing HD treatment. **CONCLUSIONS:** Our study indicates that HD does not impair the specificity of anti-CCP and RF for RA in patients where the disease has not yet developed. Future prospective studies may show whether there is any use in determining RF, and especially anti-CCP, as early predictors of RA in patients with ESRD who are at greater risk of developing this condition.

Coen Herak D, Miloš M, Zadro R. Evaluation of the Innovance D-DIMER analytical performance. Clin Chem Lab Med 2009;47:945–51.

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BACKGROUND: Widespread use of D-dimer in recent years has led to the development of a number of new fully automated quantitative D-dimer assays. **METHODS:** We evaluated the analytical performance of the particle-enhanced immunoturbidimetric assay Innovance D-DIMER (Siemens Medical Solutions) on the Behring Coagulation System (BCS) analyzer. **RESULTS:** Within-run coefficients of variation (CVs) for samples with low, borderline, slightly, and extremely increased D-dimer concentrations

were 2.1%-5.5%, whereas between-run CVs for control samples with low and extremely increased D-dimer were 5.5%-8.4%. The assay exhibited good linearity in the working range between 0.17 mg/L and 5.45 mg/L fibrinogen equivalent units (FEU), with the lower limit of detection of 0.099 mg/L FEU. The upper reference value determined in 40 plasma samples from healthy volunteers was 0.495 mg/L FEU. The results obtained in 457 fresh plasma samples were compared with results obtained with VIDAS D-Dimer Exclusion. Passing and Bablok regression analysis demonstrated highly significant correlation ($y=1.370x-0.108$, $r=0.952$, $p<0.001$). Bland and Altman difference plots demonstrated slightly higher results obtained with Innovance D-DIMER that was more pronounced with increasing values. Very good agreement between both assays was observed ($\kappa=0.860$; 95% confidence interval (CI), 0.811-0.908). CONCLUSIONS: This study demonstrates that Innovance D-DIMER fulfills all analytical requirements for daily routine use.

Maćešić M, Turkalj M, Jelčić Z, Dodig S, Kristić-Kirin B, Nogalo B, Plavec D. Decreased risk for atopic disorder associated with highly hyperreactive tuberculin skin test reaction in children and adolescents. *Pediatr Pulmonol.* 2009;44:701-5.

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BACKGROUND: It is speculated that the exposure to Mycobacterium tuberculosis, either by infection or by Bacillus

Calmette-Guérin vaccination, may inhibit the onset of atopy by the modification of immune profiles leading to a shift of T(H)1/T(H)2 balance to the T(H)1 side. OBJECTIVE: One hundred eighty-six patients hyperreactive at tuberculin skin test (TST) were examined in order to investigate the prevalence of atopic disorder, particularly referring to the association between the size of the TST induration and the prevalence of sensitization and manifest atopic disorder. METHODS: The study consisted of a family history record, patients' medical history assessment and clinical examination, skin prick test (SPT), serum total and allergen-specific IgE (sIgE) measurement and eosinophil count. RESULTS: Atopic disorder was present in 49 (26.3%) patients tested. No significant difference between the groups based on the TST induration size (15-24 mm vs. ≥ 25 mm) was found for gender distribution, family atopy history, total IgE measurement, eosinophil count, positive SPT, and the presence of sIgE. A significant difference was found for the age median (14.0 years vs. 13.0 years), childhood atopy record, and manifest atopic disorder. No association between the size of the TST induration and the incidence of allergic sensitization was demonstrated. However, a significant inverse association between the size of the TST induration and manifest atopic disorder was demonstrated. CONCLUSION: In patients highly hyperreactive at TST, the size of the induration is inversely associated with manifest atopic disorder.

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