current assay (y) gave x = 0.978y + 26.4 (r^2 = 0.987) while urine gave y = 0.960x + 18.0 (r^2 = 0.970). The assay was not affected by unconjugated bilirubin (1026 μmol/L), hemoglobin (3 g/L), lipemia (20 g/L Intralipid), and ascorbic acid 680 μmol/L) with <10% error. The manufacturer's reference interval was verified (males ≤ 450 μmol/L; females ≤ 415 μmol/L).

Conclusions: The Next Generation ARCHITECT Uric Acid Assay demonstrated acceptable precision and agreement with the current method. Linearity was verified over a broad range and the assay was unaffected by common interferences at relevant levels.

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P564

Fatty acid binding protein and cardiac troponin I for the early rule-out of myocardial infarction in patients presenting with chest pain

C. Shortt, K. Phan, S.A. Hill, A. Worster, P. Kavsak
McMaster University, Canada

Objectives: To determine if a cardiac array could facilitate the early rule-out of myocardial infarction (MI) in patients presenting less than 6 h after symptom onset.

Methods: Emergency department chest pain patients (n = 163; see CMAJ 2005;172:1685–1690) with available serum samples (storage −80°C; 2nd thaw) at 0, 3, 6 h were measured with the Randox cardiac array (cardiac troponin I (cTnI): CV = 11% at 4.1 μg/L, fatty acid binding protein (FABP): CV = 10% at 15.8 μg/L, creatine-kinase MB (CK-MB): CV = 7% at 11.5 μg/L, and myoglobin (MYO): CV = 15% at 129 μg/L). Receiver–operator characteristic curve analyses were performed for each analyte to determine the area under the curve (AUC), using the peak concentration, for detection of MI. The combination of FABP and cTnI was also evaluated for early-rule out using the limit of detection for cTnI (>0.18 μg/L) and the median concentration of FABP in a non-cardiac chest pain population (>2.0 μg/L) (Clin Biochem 2007;40:1245–1251). Subjects with the peak concentrations in cTnI and FABP above both these cutoffs would be positive with the sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and likelihood ratios (negative-LR, positive-LR) for MI with 95% confidence intervals determined.

Results: The prevalence of MI was 6.7% with no difference in the AUCs between cTnI 0.97 (95% CI: 0.94–1.00) versus CK-MB 0.95 (95% CI: 090–0.99), p = 0.18 and FABP 0.82 (95% CI: 0.67–0.97) versus MYO 0.74 (95% CI: 0.54–0.95), p = 0.16. Applying the dual criteria for cTnI and FABP yielded 100% sensitivity (95% CI: 70–100%), 88% specificity (95% CI: 81–92%), NPV = 100% (95% CI: 97–100%), PPV = 37% (95% CI: 22–55%), negative-LR = 0.00 (95% CI: 0.00–0.72) and positive-LR = 8.33 (95% CI: 5.04–12.0).

Conclusions: These data suggest a possible role for combining cTnI and FABP for the early rule-out of MI.

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P565

Cardiac troponin T concentrations 30 days post myocardial infarction: Results of a small prospective observational study

J.L. Sievenpiper, A. Worster, S. Brons, S. Mehta, P.A. Kavsak
McMaster University and Hamilton Health Sciences, Hamilton, ON, Canada

Objectives: During myocardial infarction (MI), there is a rise and subsequent fall in cardiac troponin (cTn) concentrations. However, it is unclear how gradually these levels decrease in the absence of a recurrent MI. We conducted a prospective observational study to assess whether cTnT measured with the 4th-generation and high-sensitivity assays normalizes within 30 days post MI.

Methods: Patients were recruited by convenience sampling after their first MI (index event) from the Hamilton General Hospital. After ethics approval, consented patients agreed to return in 30 days to provide a follow-up blood sample (EDTA plasma) for analyses of cTnT (Roche diagnostics). We used thresholds of cTnT>0.01 μg/L (limit of detection [LOD]), hs-cTnT>3 ng/L (limit of the blank [LoB]), and ≥14 ng/L (99th percentile) as evidence of persistent elevation. Age and sex effects were assessed by Chi^2 (P<0.05).

Results: We collected samples from a total of 46 patients (n = 38 ST elevation MI [STEMI] and 8 non-STEMI). Two of the patients had a recurrent MI during the 30-day follow-up. Of the remaining 44 patients who remained event free, 35 (80%) had hs-cTnT>3 ng/L and 12 (27%) had hs-cTnT≥14 ng/L, whereas only 1 (2%) had a detectable cTnT>0.01 μg/L at 30 days post MI. There was no effect of sex and age.

Conclusions: These pilot data indicate that a significant number of patients will have elevated hs-cTnT levels without showing elevation in cTnT within the first 30 days following their MI. Larger and longer studies are needed to determine if and when hs-cTnT levels normalize.

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P566

Suivi des patients sous coumadin par autocontrôle à domicile de l'inr – Experience au CHUM

S. Simionescu, L. Labrecque
Hôpital Saint Luc, CHUM, Montréal, Canada

Introduction: Une mesure périodique de l'INR est le moyen de suivi des patients recevant des anticoagulants oraux. À la clinique d'anticoagulothérapie de l'Hôtel-Dieu du CHUM, 299 patients s'autocontrôlent depuis 2009 par la mesure de l'INR à l'aide d'un lecteur portatif.

Objectifs: Le but de notre projet est de comparer le suivi traditionnel sur un échantillon de sang veineux avec l'autocontrôle à domicile à l'aide d'un lecteur portatif, soit le CoaguChek XS (Roche diagnostics).

Méthode: Nous avons révisé le dossier des 299 patients. Nous avons comparé la fréquence des mesures, la stabilité de l'INR, la fréquence des visites médicales, les complications de l'anticoagulothérapie depuis l'implantation du programme d'autocontrôle et 12 mois précédant celui-ci.

Résultats: De 299 patients qui ont été inclus dans ce projet, 4,7% des patients ont arrêté le traitement au Coumadin, 2,0% sont décédés, 2,3% ont changé de médication (Pradax) et 0,7% ont arrêté le suivi pour d'autres causes. La valeur moyenne de l'INR est de 2,86 avant l'utilisation du Coaguchek XS et de 2,82 après. La durée moyenne entre deux mesures d'INR est de 33 jours avant l'utilisation du Coaguchek XS et de 24 jours après. Le nombre de complications n'est pas statistiquement différent entre les deux protocoles.

Conclusions: Nos résultats ont démontrés que le suivi des patients anticoagulés par l'autocontrôle à domicile à l'aide d'un lecteur portatif est une pratique fiable et sécuritaire qui se compare avec un suivi traditionnel au laboratoire sur un échantillon de sang veineux.

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P567

Diagnostic value of urine dipstick and microscopy for urinary tract infection

K.-Y. Sohn[a,b], A. Sarabia[a,b,c], K. Fellows[a], L. McKeown[a], A. Jackson-Lee[a], T. Feltis[a,b]

[a]Department of Laboratory Medicine, Credit Valley Site, The Credit Valley Hospital and Trillium Health Center, Mississauga, Ontario, Canada
[b]Department of Laboratory Medicine and Pathobiology, University of Toronto, Toronto, Ontario, Canada
[c]Department of Medicine, University of Toronto, Toronto, Ontario, Canada

Objectives: To evaluate the diagnostic value of urine microscopy in addition to dipstick analysis for urinary tract infection (UTI).

Methods: Results of 203 consecutive urine specimens submitted over a two-week period for culture, dipstick analysis and microscopy (done for leukocyte esterase and/or nitrite positive specimens; n = 147) were compared.

Positive results were defined as follows: leukocyte esterase ≥ trace, WBC count ≥ 5 cells/HPF and for culture ≥ 10^4 CFU/mL. Sensitivities and specificities of dipstick and microscopy were calculated against culture. Pre-test probability was based on a prevalence of UTI of 23%.

Results:

Table 1
Diagnostic efficiency of urine dipstick analysis and microscopy.

Positive result	Sensitivity	Specificity	PPV*	NPV**
Esterase (n = 75)***	0.78	0.75	0.48	0.92
Nitrite (n = 27)****	0.47	0.97	0.81	0.86
Both esterase and nitrite (n = 23)	0.39	0.97	0.78	0.84
WBC (≥5/HPF) (n = 59)	0.83	0.77	0.59	0.92

*PPV: positive predictive value; **NPV: negative predictive value; ***esterase: 52 specimens were positive for esterase alone; ****nitrite: 4 specimens were positive for nitrite alone.

Pre-test P*	1st test	LR+**	Post-test P***	2nd test	LR+	Post-test P
0.23	Esterase	3.15	0.48	WBC	3.65	0.77
0.23	Nitrite	15.02	0.81	WBC	3.65	0.94
0.23	Both esterase and nitrite	12.29	0.78	WBC	3.65	0.93

*Pre-test probability; **LR+: likelihood ratio of positive test; ***post-test probability.

Conclusions: The addition of subsequent microscopic testing is most useful when used in cases in which the esterase alone is positive. In our setting, this occurs in 69% of submitted specimens. Application to different settings of practice with different pre-test probabilities may improve accuracy of diagnosis of urinary tract infection.

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P568
Évaluation rétrospective de l'efficacité d'une formation en ligne pour l'utilisation des lecteurs de glycémie

David Surprenant, Lyne Labrecque
Centre Hospitalier de l'Université de Montréal, 1058, rue Saint-Denis, Montréal, Québec, Canada H2X 3J4

Objectifs: L'utilisation de la formation en ligne jumelée à un système de gestion automatisé des droits d'accès permet de former un nombre élevé d'utilisateur tout en minimisant les ressources impliquées.

Nous avons fait une analyse rétrospective de l'efficacité obtenue suite à la formation en ligne pour l'utilisation des lecteurs de glycémie Inform II (Roche diagnostics).

Méthodes: Les données recueillies lors de la période initiale d'implantation de 3 mois ainsi que de la période post implantation de 6 mois ont été compilées puis analysées.

Résultats: Les utilisateurs ont été injectés dans le système de gestion des analyses de biologie délocalisées, Cobas IT 1000® (Roche diagnostics), par le registre des ressources humaines selon leur titre d'emploi. Des 8300 employés ayant un titre d'emploi permettant d'accéder à la formation, 3850 (46%) l'ont complétée. La formation était suivie d'un examen de 10 questions (dont deux à réussite obligatoire) nécessitant une note de passage de 90%. Des 3850 utilisateurs ayant fait l'examen, 650 (17%) personnes l'ont échoué et ont dû faire un examen de reprise en version papier.

Conclusions: L'utilisation de la formation en ligne jumelée à un système de gestion automatisé des droits d'accès est un succès. Le système a permis de former plus de 3800 utilisateurs de façon indépendante, de donner des droits d'utilisation aux lecteurs automatiquement et de conserver une trace de tout le processus. Un meilleur taux de réussite aurait pu être obtenu par la modification de l'environnement dans lequel les formations sont réalisées ainsi que la formulation de certaines questions.

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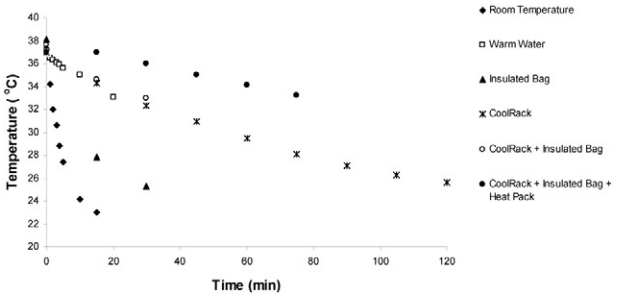
P569
Screening for preeclampsia early in pregnancy in a population with a low prevalence of the syndrome: Validation of clinical and biochemical markers based on a multivariate regression analysis

Sébastien Thériault[a], Y. Giguère[a], J. Massé[b], M. Charland[a], E. Bujold[a], F. Rousseau[a], J. Lafond[c], J.C. Forest[a]
[a]Centre de Recherche, CHUQ et Faculté de Médecine, Université Laval, Québec, Canada
[b]CHA, Québec, Canada
[c]Dept. of Biological Sciences, UQAM, Montréal, QC, Canada

Objective: To investigate the clinical utility of candidate biomarkers and clinical data to detect, early in pregnancy, women susceptible to develop PE.

Design: Among 7929 pregnant women prospectively recruited at the first prenatal visit, 214 developed hypertensive disorders of pregnancy (HDP) of which 88 had PE (1.2%), including 44 with severe PE (0.6%). A nested case–control study was performed including for each case of HDP two normal pregnancies matched for maternal age, gestational age at recruitment, ethnicity, parity, and smoking status. The most promising markers were selected in a multivariate logistic regression model: BMI at the beginning of pregnancy, mean arterial pressure (MAP), PlGF, sFlt-1, inhibinA and PAPP-A measured between 10 and 18 weeks gestation.

Results: When combined with MAP and BMI, the four biochemical markers discriminate normal pregnancies from those with HDP. At a 5% false positive rate, 37% of the affected pregnancies would have been detected. However, considering the prevalence of HDP, the positive predictive value would have been only 15%. If all the predicted positive women would have been proposed a preventive intervention, only one out of 6.7 women could have potentially benefited. In the case of severe PE, sensitivity was the same, but the positive predictive value decreased to 3%.



Conclusion: Neither individual candidate markers nor multivariate risk algorithms using an *a priori* combination of selected markers reached a performance justifying implementation. This emphasizes the necessity to take into consideration characteristics of the