

Feb 2005

Hello,

What a month guys, what with tsunami disaster taking its toll, stock markets falling and then recovering and all. Not the greatest of start for the new year, I am afraid. Lets keep our fingers crossed and lets see what this year has to offer us.

Well, back to buisness, this month's pick includes an article about malaria, an article about Koch's and couple of others about Insulin resistance and toxoplasmosis. I have also added a line or two of my comments over the abstracts.

One group of researchers found (after a difficult to understand statistical analysis !) that using factors like obesity, fasting glucose, insulin, lipids, and blood pressure and family history INSULIN RESISTANCE can be predicted. I have underlined the important part.

You may think QUANTITATION OF PROTEINURIA BY SPOT URINE SAMPLING is already known and proved. But this study was done in our Indian setting, so I thought it was important. Otherwise most of the times we have to take the word of Western studies that are not done in our setup and not on our population.

Another article studies SOCIOECONOMIC STATUS AND PREVALENCE OF TOXOPLASMOSIS.

We say prevention is better than cure; though this one is somewhat old, but you may find this article interesting because this proves that effective treatment of active TB is more important factor in preventing spread of tuberculosis than prevention alone.

In other words cure is better than prevention, Surprise ! Surprise !

Then there is one article about malaria. A reliable surrogate marker for malaria ? What everybody wanted ? So here it is folks - Good old Platelets ! if they are normal we are free to think of something else as a cause of fever (Negative Predictive Value of 100 %). This is the paper proving the same, though setting is New York, I think the findings should be applicable to us also.

So without further ado, let's start right over!

Happy reading!

~ Sachin

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cont.

IDENTIFICATION OF INDIVIDUALS WITH INSULIN RESISTANCE USING ROUTINE CLINICAL MEASUREMENTS

Steven E. Stern¹, Ken Williams², Eleuterio Ferrannini³, Ralph A. DeFronzo⁴, Clifton Bogardus⁵, and Michael P. Stern²

Insulin resistance is a treatable precursor of diabetes and potentially of cardiovascular disease as well. To identify insulin-resistant patients, we developed decision rules from measurements of obesity, fasting glucose, insulin, lipids, and blood pressure and family history in 2,321 (2,138 nondiabetic) individuals studied with the euglycemic insulin clamp technique at 17 European sites; San Antonio, Texas; and the Pima Indian reservation. The distribution of whole-body glucose disposal appeared to be bimodal, with an optimal insulin resistance cutoff of $<28 \mu\text{mol}/\text{min} \cdot \text{kg}$ lean body mass. Using recursive partitioning, we developed three types of classification tree models: the first, based on clinical measurements and all available laboratory determinations, had an area under the receiver operator characteristic curve (aROC) of 90.0% and generated a simple decision rule: diagnose insulin resistance if any of the following conditions are met: BMI $>28.9 \text{ kg}/\text{m}^2$, homeostasis model assessment of insulin resistance (HOMA-IR) >4.65 , or BMI $>27.5 \text{ kg}/\text{m}^2$ and HOMA-IR >3.60 . The fasting serum insulin concentrations corresponding to these HOMA-IR cut points were 20.7 and 16.3 $\mu\text{U}/\text{ml}$, respectively. This rule had a sensitivity and specificity of 84.9 and 78.7%, respectively. The second model, which included clinical measurements but no laboratory determinations, had an aROC of 85.0% and generated a decision rule that had a sensitivity and specificity of 78.7 and 79.6%, respectively. The third model, which included clinical measurements and lipid measurements but not insulin (and thus excluded HOMA-IR as well), had a similar aROC (85.1%), sensitivity (81.3%), and specificity (76.3%). Thus, insulin-resistant individuals can be identified using simple decision rules that can be tailored to specific needs.

Diabetes 54:333-339, 2005

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A diplomat is a man who always remembers a woman's birthday but never remembers her age.

QUANTITATION OF PROTEINURIA BY SPOT URINE SAMPLING

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ABSTRACT

Few studies have shown that calculation of protein/creatinine ratio in a spot urine sample correlates well with the 24-hour urine collection. A study was conducted to compare the accuracy of a spot urinary protein/creatinine ratio (P/C ratio) and urinary dipstick (albustix) with the 24-hour urine protein (24-HUP). Fifty samples from 26 patients were collected. This included a 24-hour urine sample followed by the next voided spot sample. The protein/creatinine ratio was calculated and dipstick (albustix) was performed on the spot sample. This was compared with the 24-hour urine protein excretion. The correlation between the three samples was statistically highly significant ($p = <0.001$) for all levels of proteinuria. The normal value of protein/creatinine ratio in Indian children was also estimated on 100 normal children attending the OPD and was calculated to be 0.053 (S.E of mean \pm 0.003).

SOCIOECONOMIC STATUS AND PREVALENCE OF TOXOPLASMOSIS DURING PREGNANCY

*P Yasodhara, BA Ramalakshmi, V Lakshmi, TP Krishna

Abstract

Two hundred and thirty-six women with previous bad obstetric history (BOH), belonging to different socioeconomic groups were investigated for the presence of *Toxoplasma* specific antibodies (IgG/IgM) using commercial diagnostic kits. The study showed a higher percentage of IgG seropositivity in women of low socioeconomic group (LSG) compared to those of high socioeconomic group (HSG). Specific IgM positivity indicative of possible acute infection, was higher in women of HSG, emphasizing the need for educating pregnant mothers on preventive measures. However, there is a need to undertake in-depth studies to understand the significance of the presence of IgM in women with BOH.

Indian Journal of Medical Microbiology, (2004) 22 (4):241-243

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A bus is a vehicle that runs twice as fast when you are after it as when you are in it.

Brief Communication

Tuberculosis epidemics driven by HIV: is prevention better than cure?

AIDS. 17(17):2501-2508, November 21, 2003.

Currie, Christine SM a; Williams, Brian G b; Cheng, Russell CH a; Dye, Christopher b

Abstract:

Objective: To compare the benefits of tuberculosis (TB) treatment with TB and HIV prevention for the control of TB in regions with high HIV prevalence.

Design and methods: A compartmental difference equation model of TB and HIV has been developed and fitted to time series and other published data using Bayesian methods. The model is used to compare the effectiveness of TB chemotherapy with three strategies for prevention: highly active antiretroviral therapy (HAART), the treatment of latent TB infection (TLTI) and the reduction of HIV transmission.

Results: Even where the prevalence of HIV infection is high, finding and curing active TB is the most effective way to minimize the number of TB cases and deaths over the next 10 years. HAART can be as effective, but only with very high levels of coverage and compliance. TLTI is comparatively ineffective over all time scales. Reducing HIV incidence is relatively ineffective in preventing TB and TB deaths over 10 years but is much more effective over 20 years.

Conclusions: In countries where the spread of HIV has led to a substantial increase in the incidence of TB, TB control programmes should maintain a strong emphasis on the treatment of active TB. To ensure effective control of TB in the longer term, methods of TB prevention should be carried out in addition to, but not as a substitute for, treating active cases.

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A boy, frustrated with all the rules he had to follow, asked his father, "Dad, how soon will I be old enough to do as I please?" The father answered immediately, "I don't know. Nobody has lived that long yet."

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A cigarette is a pinch of tobacco, wrapped in paper, fire at one end, fool at the other.

Thrombocytopenia in malaria

Patel U, Gandhi G, Friedman S, Niranjana S.

Malaria continues to be a cause of high mortality and morbidity. Imported cases of malaria are increasing in New York City. Yet, New York physicians, when evaluating patients for fever, frequently missed the diagnosis of malaria. Authors evaluated the role of platelet count for predicting malarial infection. The study included patients seen between 1996 and 2000 in a New York community hospital for fever who had traveled to a malaria-endemic area. Forty patients with malaria were identified. The study found the sensitivity of platelet count for diagnosing malaria was 100%, and the specificity was 70%. The negative predictive value was 100% and the positive predictive value was 86%. Hence, the authors propose that in any patient with fever and recent travel history, platelet count is an important clue to the diagnosis of malaria. A finding of thrombocytopenia should increase the suspicion of malaria and lead to performance of more specific tests, including multiple peripheral smears and ELISA for parasite-specific antigen, etc.

J Natl Med Assoc. 2004 Sep;96(9):1212-4

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A Committee is a group of people, who individually can do nothing, but as a group decide that nothing can be done.