= 0.99). When compared with the FIA procedure, the slope was 1.06 and intercept -0.30 (r = 0.98). Tobramycin results, with the Centrifichem compared with results of the Cobas method gave a slope of 0.80 and intercept of 0.10 (r = 1.00). Comparison with the FIA method showed a slope of 1.03 and y-intercept of 0.24 (r = 0.99).

Slopes were lower when compared with the Cobas method, possibly because the samples were obtained from the reference laboratory several days after they were assayed by the Cobas method. Samples used in comparison with the FIA method were assayed no later than 48–72 h after collection.

Because of its good precision, reproducibility, and correlation with other methods, we believe this method is satisfactory for gentamicin and tobramycin assay.

References

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Serum Bile Acids Determined with an RA 1000 Analyzer

To the Editor:

Assay of bile acids in serum is used increasingly to differentiate liver diseases, especially to detect impaired hepatocellular function and hence damage to the liver (1).

We have adapted the bile acids kits marketed by Merck Diagnostics to measure total serum bile acids in the "random-access" analyzer RA 1000 (Technicon Instruments Corp., Tarrytown, NY). In this kit method, 3α-hydroxy bile acids are specifically converted to the corresponding 3-keto derivatives in the presence of NAD+ and with the aid of 3-α-hydroxysteroid dehydrogenase (EC 1.1.1.50). The resulting NADH reacts with nitroblue tetrazolium salt under the catalytic influence of diaphorase (EC 1.8.1.4) to give a blue formazan derivative, which is measured spectrophotometrically at 550 nm (2).

The reagents were used according to the manufacturer's instructions (3). A sample reaction solution and blank reaction solution (10 mL each) were mixed with two drops of wetting agent, Triton X-450 (Technicon). These reagents are stable for five days at 2 to 8°C and for 2 h in the reagent tray. The "stop reagent" was not used. The standards—equimolar amounts of sodium glycocholate, sodium glycodeoxycholate, and sodium taurochodeoxycholate in a bovine serum matrix—were from Merck Diagnostics. Settings for the RA 1000 system were as follows:

- Chem no. *
- Lock enter
- Name *
- Immunoassay 0
- Type 2
- Inverse 0
- %Smp vol. 50
- Filter P 5/WL 550
- Bic chem 0
- Delay 9 30
- Default blank 1
- %Rgt vol 70
- 2nd Reagent 0
- Unit 5 μmol/L
- Unit fac 1
- Decimal 1
- RBL low 0
- RBL hi 0.080
- Range lo 0
- Range hi 160
- Cal fac *
- Std val 100
- Normal L 0
- Normal H 8.0
- Slope 1
- Intercept 0
- EP lim 0.005
- Auto lim 0

* = User-determined. Temp = 37°C

Mean values, SDs and CVs (%) were 31.06, 1.21, 3.91 and 77.87, 1.50, 1.93. For 15 consecutive analyses the run-to-run precision was estimated with serum quality-control material (Pathonorm L and H; Nyegaard & Co., Oslo, Norway). Values for the means (μmol/L), SDs, and CVs (%) were 31.06, 1.21, 3.91 and 77.87, 1.50, 1.93. For within-run precision, estimated with the same control material, the corresponding values were 31.06, 1.06, 3.40 and 78.89, 1.09, 1.38 (n = 50). Mean analytical recovery of the bile-acids standards added to the serum was 97% (SD 4.1%) for the three different species. Samples with concentrations exceeding 160 μmol/L should be appropriately diluted before assay. Comparison between this method (x) and a manual assay (y) gave the equation y = 0.971x – 0.633 (r = 0.994, n = 31).

We conclude that our adaptation of the kit to use with the RA 1000 increased both precision and speed, giving results in excellent agreement with the standard procedure.

References
3. Manufacturer's insert for "Bile Acids" kit, Merck Diagnostics, Darmstadt, F.R.G.

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Diethylstilbestrol Inhibits the Estrogen-Binding Activity of Pregnancy Plasma; Possible Role in DES-Associated Pathology

To the Editor:

Administration of the synthetic estrogen diethylstilbestrol (DES) to pregnant women has been associated with development in daughters of clear-cell adenocarcinoma of the vagina and cervix (1). One factor responsible may be the lack of high-affinity interactions between the drug and the plasma proteins of mother and of fetus. Indeed, it was shown (2) that DES binds only weakly to the high-affinity protein carrier of the sex hormones, i.e., the sex-steroid binding globulin (SBG, or testosterone–estradiol binding globulin), which is considerably increased in the maternal blood during pregnancy (3). On the other hand, DES interacts poorly with the plasma proteins of the human fetus, including α₁-fetoprotein (4). Therefore its maternal–fetal transfer and its subsequent uptake by fetal targets would meet with little opposition, the excessive impregnation of developing estrogen-sensitive tissues by the drug possibly resulting in damage later.

We wish to report an observation that indicates that DES may exert additional undesirable effects by thorn-