

13

COMPARISON OF DIAGNOSTIC TESTS FOR TRICHOMONAS VAGINALIS IN ADOLESCENT FEMALES. Royann Mraz, Marilyn Dawson, Harry Dalton, Richard Brookman. (Spon. by Harold Maurer.) Medical College of Virginia, Children's Medical Center, Depts. of Pediatrics & Pathology, Richmond, Virginia.

*Trichomonas vaginalis* is a common cause of genitourinary infections in sexually active women. Wet mount reportedly detects 50-75% of culture-positive cases. Numerous investigators also report that culture can be negative with a positive wet mount. Four methods of detecting *T. vaginalis* were compared in 180 sexually active adolescents. Vaginal pool secretions were cultured in Trichosel™ (BBL) broth, air-dried and stained with acridine orange and with Diff-Quik™ (Dade), a modified Giemsa stain, and mixed with saline for direct microscopy. All cultures were read by the same two technicians and all stains by the same microbiologist, each blind to the results of other methods. Wet mounts were read by several clinicians all trained and supervised by the same physician. *T. vaginalis* was detected by at least one of the four methods in 24% of all screened. Sensitivities and negative predictive values (NPV) were:

	Acr Orange	Diff-Quik	Trichosel	Wet Mount
Sensitivity	88.4%	83.7%	76.7%	62.7%
NPV	96.6%	95.4%	93.6%	90.5%

Of 16 cases negative on wet mount, 4 were positive by culture alone, 4 by stains alone, and 8 by culture and stain. Detection of suspected *T. vaginalis* can be improved when a negative wet mount is supplemented by culture and/or special stains. Cost, convenience, and capacity for rapid diagnosis may favor the office laboratory use of Diff-Quik.

14

HIRSUTISM (H) & ACNE (A) ARE VARIABLE MANIFESTATIONS OF ANDROGEN EXCESS. S Reingold & R L Rosenfield, Univ of Chgo, Wyler Children's Hosp., Dept. of Peds, Chgo.

Paradoxically, the hyperandrogenemia of congenital adrenal hyperplasia and polycystic ovary syndrome may be "cryptic," i.e. without H, although plasma free testosterone (fT) is known to be elevated in most moderately severe H and A. We tested the hypothesis that this disparity is related to common variations in end-organ sensitivity to androgens.

Plasma fT, H (scores 8-16 mild, 17-25 moderate) and A scores were obtained from 51 volunteers and 9 hirsute females homogeneous for age (18-21 yrs) and race (Caucasian).

Among subjects with an elevated fT all possible combinations of skin manifestations were seen: 5 had H alone, 4 had A alone, 5 both H and A, and 1 neither. Mild acne (3-9 comedones) was often the only manifestation of hyperandrogenemia. Although plasma fT was significantly elevated (p<.05) in the 12 subjects with mild hirsutism alone (12.7±5.5, SD, vs 7.4±2.7 pg/ml) and was elevated (13-19 pg/ml) in all 3 cases with moderate hirsutism, no correlations were discerned between H and fT. Similarly, no correlation was apparent between A and fT. The coefficient of variation of fT was 2-fold greater among than within mild H cases.

Our data support a model in which normal variations in the "apparent sensitivity" of the pilosebaceous unit to androgen play at least as great a role in the appearance of H and A as androgen excess. We propose that cryptic hyperandrogenemia lies at the opposite end of a spectrum (relatively resistant to androgen excess) from idiopathic hirsutism or acne (relatively sensitive to unremarkable androgen levels).

15

ALTERED DRUG METABOLISM IN POORLY CONTROLLED INSULIN DEPENDENT DIABETES MELLITUS (IDDM) Paul Saenger, Albert Einstein Coll. Med., Dept. Peds., Bronx, N.Y.

Animal experiments have documented alterations in hepatic drug metabolism in diabetic animals. In addition to abnormalities in glycosylation of hemoglobin abnormalities of other of heme proteins such as cytochrome P-450 might also be expected to occur. We report here changes in cytochrome P-450 dependent drug metabolizing activity in adolescents with IDDM. We have studied antipyrine (AP) kinetics in 8 children (age 10-22 yr) with IDDM of at least 3 months duration who were all in poor control as defined by Hgb A1 levels. Liver function tests and renal function were nl. Insulin dose ranged between 0.5-1 U/kg. AP (test dose 16 mg/kg p.o.) is widely used as a measure of hepatic drug metabolism in man. Its elimination from plasma is largely determined by hepatic oxidizing enzyme activity. AP kinetics were compared to age matched controls (mean±SD) AVD: volume of distribution.

	AP t <sub>1/2</sub> (hrs)	AP Clearance (ml/min/kg)	AP AVD (L/kg)	Hgb A1 (%)	* p<.01 ** p<.05
Diab.	4.6±0.4*	1.22±0.2**	0.55±0.2	13±2.4	
Control	8.1±1	0.80±0.19	0.6±0.21	<8	

In three IDDM patients with near nl Hgb A1 levels (6.8,7.1,8%) AP t<sub>1/2</sub> was nl when compared to age matched controls (8.1,9.2,8hr) as was AP clearance.

Conclusion: In poorly controlled IDDM hepatic drug metabolism may be altered: AP clearance is increased, AP t<sub>1/2</sub> is shortened. In well controlled IDDM antipyrine drug metabolism appears to be nl. These findings provide another cogent argument for tight metabolic control in youngsters with IDDM.

16

DETERMINATION OF URINARY EXCRETION OF CANNABINOIDS USING AN IMMUNOASSAY TECHNIQUE: A PILOT STUDY. RH Schwartz, GF Hayden, M Riddle; George Washington Univ., Washington, D.C., Univ. of Virginia, Charlottesville, Va.

Since manifestations of marijuana use and abuse are often non-specific, a simple reliable technique to confirm such clinical suspicions would be of great use to physicians caring for adolescents. This pilot study employed the EMIT<sub>2</sub> immunoassay technique to monitor the urinary excretion of cannabinoids among 70 adolescents and young adults who had an abrupt and closely supervised cessation of drug use upon admission to a drug rehabilitation program. There were no falsely positive tests, so that the specificity for detecting recent marijuana use appears excellent. The sensitivity of the assay, however, was not as high. Among 19 subjects who had smoked 0.5-1 oz. of marijuana per month and who reported use in the previous 12-24 hours, only 15 (79%) had positive urine tests. The duration of positive testing varied according to the intensity of past marijuana use. Among 5 subjects with a history of chronic, heavy marijuana use (≥2 oz. per month), urinary cannabinoids were detected for an average of 13 days (range 9-25 days) following cessation of use. With moderate use by 4 subjects (1 oz. per month), testing remained positive for an average of 4.7 days (range 2-8 days), and with infrequent use (<¼ oz. per month) by 2 novices, testing negative 48 hours after cessation. A positive test for >8 consecutive days after apparent cessation of use should therefore suggest either surreptitious continuing use or previous chronic, heavy use. The EMIT<sub>2</sub> immunoassay appears to be a highly specific, moderately sensitive method for detecting recent marijuana use, and may be of practical value in confirming such clinical suspicions.

17

USE OF CHLAMYDIAL MONOCLONAL ANTIBODY TEST TO DETECT C. TRACHOMATIS ENDOCERVICAL INFECTIONS IN ADOLESCENT FEMALES. M.A. Shafer, J. Schachter, E. Vaughan, B. Moscicki (Spon. by Charles E. Irwin, Jr.). University of California, San Francisco, Department of Pediatrics.

We compared the immunofluorescent monoclonal antibody, Microtrak (MT) for screening for *C. trachomatis* (CT) endocervical infection in a general teen clinic population. 360 consecutive subjects aged 13-19 yrs (x̄ = 17.0) were studied. 50(14%) smears had insufficient cells for MT and 4 CT cultures were not evaluable yielding 306 paired results for comparison. GU related problems were the stated "reason" in 110 (36%) visits. There were 40 (13%) culture (+) and 36 (12%) MT (+). Results are:

	DIRECT CULTURE (N)			
	1st pass		2nd pass	
	CT(+)	CT(-)	CT(+)	CT(-)
MT (+)	18	18	26	10
MT (-)	5	259	14	256
Sensitivity	78%		65%	
Specificity	94%		96%	
Predictive Value +	50%		72%	
Predictive Value -	98%		95%	

Conclusions: Neither the sensitivity, specificity, or predictive value (+) of the MT suggest it will be useful in screening for CT in a general teen clinic population. These results indicate that MT would be best used in testing for CT in a high risk population where culture is not available.

18

DRUG INDUCED LIFE THREATENING SUICIDAL ATTEMPTS IN ADOLESCENTS. Harikrishna Shukla, Peter Masella, Bernadette Fiscina, Donald Gromisch, New York Medical College, Lincoln Hospital, Bronx, New York

56 adolescent suicidal attempters (46 females, 10 males) with a mean age 13±2.5 yrs. were admitted to the Pediatric ward over a two year period. All but two of the pts. had used drugs to attempt suicide. The drugs used were previously prescribed by MDs to either the attempter or to a family member for illnesses. Table shows the drugs used by attempters: 14 patients used multiple drugs. 18/54 (14F, 4M) had altered consciousness on arrival to ER. Four of these were found unconscious either in school or in the street. The average hospitalization was 5.7 days (range 2-40 days). All patients survived and were followed in adolescent clinic.

CONCLUSIONS: 1. Most of the suicidal attempts in adolescents were drug induced. 2. In treating unconscious adolescents, suicidal attempts should be considered in the differential diagnosis. 3. A detailed history aimed to elicit drug treatment of the patient or family member may be helpful in identifying the drugs used by the attempter.

DRUGS	#of pts. (%)
Analgesics & Antipyretics	15 (28%)
Anticonvulsants	8 (15%)
Antihistamines	8 (15%)
Antibiotics	7 (13%)
Antihypertensives	3 (5%)
Bronchodilators	3 (5%)
Miscellaneous	10 (19%)