

## ADOLESCENT MEDICINE

† 1 SCREENING ADOLESCENT MALES FOR SEXUALLY TRANSMITTED DISEASES (STDs): THE FIRST-PART VOIDED URINE. Hoover Adger, Mary-Ann Shafer, Richard L. Sweet, Julius Schachter. Univ. of Calif., San Francisco, Depts. of Peds., Ob-Gyn, and Lab. Med. (Spon. by Melvin M. Grumbach). STDs are the major medical morbidity among sexually active adolescents, yet, only females are routinely screened for etiologic agents. We hypothesized that the microscopic examination of the sediment from a first part urine (FPU) specimen in sexually active symptomatic and asymptomatic adolescent males can be used as a sensitive screening procedure to identify sexually transmitted urethritis. We studied a group of 37 sexually active male subjects (Ss) in a general teen clinic for evidence of urethritis by the FPU method. Mean age of Ss was 17.8 years (r=15-21); reasons for visit included contact with a positive STD index case (13;35%), partner's gyn symptoms (8;22%), GU concerns (11;30%) and routine care (5;14%). Upon clinic arrival Ss provided a FPU specimen (first 15-20 cc of voided urine). Analysis of urine was done blindly. Spun sediment of FPU was considered positive if >10 WBC's/HPF were identified. GU Hx and PE were done and intraurethral specimens were obtained for gram stain and culture of *N. gonorrhoeae* (GC) and *C. trachomatis* (Ct). 10 (27%) were Ct(+) and 5 (14%) were GC(+) with no dual infections. Abnormal FPUs were identified in 17 (46%). 14/17 Ss with abnormal FPUs were Ct or GC(+); 1/20 Ss with normal FPUs were GC(+), ( $\chi^2=19.7$ ,  $p<.001$ ). FPU sensitivity=93%; FPU specificity=85%. 5 Ct or GC(+) Ss (33%) were asymptomatic; of this group 4 (80%) had a positive FPU. Thus, FPU examination is a non-invasive, inexpensive, readily available and acceptable screening test in sexually active adolescent males.

2 CLINICAL AND BIOCHEMICAL CORRELATES IN IDIOPATHIC DELAYED PUBERTY (IDP). Val Abbassi Georgetown University Hospital, Department of Pediatrics, Washington, D.C.

Thirty five boys with idiopathic delayed puberty (IDP, defined as onset of testicular enlargement after age 14) were evaluated by pubertal staging, growth velocity (GV), bone age (BA), FSH, LH and testosterone (T) measurements. Pubertal staging was based on testicular measurement: length 2.5 cm = P1, 2.5-3.2 cm = P2, 3.3-4 cm = P3, 4.1-4.4 cm = P4, > 4.5 cm = P5. Testosterone, FSH and LH were measured by RIA, BA by the method of Gruelich and Pyle. Ages ranged from 14 to 18 years. One boy was at stage P1, 8 boys at P2, 18 boys at P3 and 8 boys at P4. Mean age/BA were not different among the P2, P3 and P4 groups 15.2/12.5, 15.1/12.6 and 15.8/13 respectively. Mean GV in P2 and P3 boys was not significantly different,  $3.8 \pm .36$  cm/yr vs  $4.8 \pm .36$ ,  $p>.05$ . GV in P4 group was  $6 \pm .86$  cm/yr, significantly greater than P2 group  $p<.05$ , but not P3 group. Mean FSH/LH for P2, P3 and P4 groups were similar 4/7.4, 3.5/8.7 and 4/7.0 mIU/ml respectively. Mean T concentration in P2 group  $65.6 \pm 23$  and P3 group  $83 \pm 21$  ng/dl were not significantly different. T in P4 group  $211.4 \pm 37.7$  ng/dl was significantly greater than the P2 and P3 groups. There was no correlation between GV vs BA, T vs BA, or T vs GV.

The findings imply the heterogeneity of IDP. Pubertal development and T rise are distinct from general population. The clinical implications of such findings are in anticipatory guidance and prediction of pubertal events in IDP.

3 FEEDING INTERACTIONS OF FETALLY MALNOURISHED INFANTS BORN TO TEENAGE AND OLDER MOTHERS. Cynthia Garcia Coll, Barry M. Lester, Marta Valcarcel, Joel Hoffman, and William Oh. Brown Univ., Women & Infants Hosp., Dept. of Ped., Prov., RI; Harv. Med. Sch.; U. of PR Med. School.

The purpose of this study was to document maternal-infant feeding interactions of infants with various forms of fetal growth impairment (FGI) born to teenage and older mothers. 37 primiparous, Puerto Rican mothers and their one day old infants (>37 wks. gestation) were studied. 3 forms of FGI were identified: small for date [birth weights below the 10th percentile (%)], low Ponderal Index (<10th %), or short crown-heel length (<10th %). 15 infants had FGI, 8 of whom were born to mothers <17 years of age. 22 infants had normal fetal growth, half were born to teenage mothers. The first feeding given by the mother was videotaped and later coded for feeding difficulties shown by the infant (e.g., choking, drowsiness) or mother (e.g., interrupts feeding). There were more feeding difficulties if the infant was FGI or mother was a teenager. FGI infants were more fussy ( $p<.05$ ) and drowsy ( $p<.001$ ) than non-FGI infants. Infants of teenage mothers choked more often than infants of older mothers ( $p<.07$ ). Teenage mothers also pulled the nipple slightly out of the infant's mouth more often than older mothers ( $p<.01$ ). Adult mothers of FGI infants expressed more worrisome comments about the infant's behaviors ( $p<.001$ ), indicating more sensitivity to their infant's feeding difficulties. This study shows the independent contribution of both FGI & adolescent parenting to possible feeding problems.

4 SUPPORT PROVIDED TO RURAL, ADOLESCENT MOTHERS BY THEIR MALE PARTNERS. B. Compton, J.T. Hughes, Jr., J. Stein, S. Tsitoura-Lykopolou, and F. Loda, Dept. of Pediatrics, School of Medicine, and Health Services Research Center, The University of North Carolina at Chapel Hill.

Rural areas provide special problems and benefits to adolescent mothers. Lack of services is offset by more social stability. In a 24-month-old project a female nurse practitioner and a male social worker working in a rural school district have focused on family supports, including the adolescent's male partner. In 90% of 60 adolescent pregnancies the relationship between the mother and partner lasted over 9 months. Most males were over 20; only 20% were 18 or less. During pregnancy 77% of males provided emotional support; 52% provided financial support. Ten percent of the couples were married and 30% lived together. The males were at 62% of deliveries; 70% provided emotional support at the time. The first 3 months after birth were stressful with 28% of couples separating. Three months after delivery 50% of partners provided financial support and 48% helped with child care. At this time, 21% are married, 33% live together, 45% of the males provide some child care, 45% provide financial support, and 57% are involved with the mother. During the 24-month study there was known physical violence in 20% of the relationships. Mild physical violence was directed at the child by the male partner in 10%. There was more involvement of the male during pregnancy and delivery than later. The decrease in male interest between 1 and 3 months post partum was a stress for the mother. Physical violence between adolescent partners was a significant problem.

5 THE EFFECT OF DRUG AND ALCOHOL ABUSE UPON SEXUAL MATURATION IN ADOLESCENT MALES. F. Diamond, L. Ringenberg, D. McDonald, M. Newton, J. Barnes, G. Duckett, M. Sweetland, A. Root, Dept. Ped., USF Coll. Med., All Child. Hosp., St. Petersburg, FL.

We determined the stage of sexual maturation and serum concentrations of luteinizing (LH) and follicle stimulating hormones (FSH) and testosterone (T) in 26 males admitted into a drug/alcohol abuse (DAA) program. Eleven males from the private practices of the investigators in whom there was no evidence of DAA consented to serve as control subjects (Cont). The characteristics of these groups were: DAA-chronologic age (CA) 13.4-22 years, bone age 14.5 years-adult, weight age/height age 1.01; Cont-CA 13.8-17 years, WA/HA 1.02. Penile length (DAA  $11.4 \pm 0.4$  cm, Cont  $10.7 \pm 0.5$  cm) and pubic hair stage (DAA  $5.1 \pm 0.3$ , Cont  $4.1 \pm 0.4$ ) were comparable in the two groups. The testicular volume index (TVI) was calculated. The data ( $\bar{x} \pm \text{SEM}$ ) were:

	TVI	T	LH	FSH
DAA	$11.4 \pm 0.5$	$235.9 \pm 25.3$ $p < 0.001$	$3.9 \pm 0.8$ $p < 0.05$	$3.5 \pm 0.3$
Cont	$11.5 \pm 0.7$	$456 \pm 58.9$ ng/dl	$9.0 \pm 2.9$ mIU/ml	$4.4 \pm 1.1$ mIU/ml

In 5/6 DAA restudied 8-12 months after enrollment in treatment serum T concentrations increased significantly (at enrollment  $T=217 \pm 33$ , at follow up  $T=362 \pm 33$  ng/dl,  $p < 0.01$ ,  $N=6$ ). We conclude: 1) Genital and pubic hair growth are not affected by DAA; 2) Serum concentrations of LH and T are significantly depressed in DAA; 3) T concentrations increase following drug/alcohol withdrawal; 4) DAA may selectively inhibit LH secretion in adolescent males.

6 PSYCHOSOCIAL CORRELATES OF SHORT STATURE. Paula M. Duke, Darrell M. Wilson, Lois A. Rountree, Ron G. Rosenfeld, Raymond L. Hintz, Stanford University Medical Center, Dept. of Pediatrics, Stanford, California

Prior studies associating short stature in adolescence with difficulties in the areas of self esteem, peer interaction, and academic performance have been inconclusive. We collected questionnaire data on parental perception of their child's health, growth, ease of making friends, and grade placement, and the youth's self esteem, and satisfaction with growth in 42 consecutive male endocrine clinic patients (ages 12-17) for whom short stature was identified as the presenting problem. Self esteem was measured by the Rosenberg Self Esteem Scale. All other responses were compared with answers of National Health Examination Survey (NHES) participants comparable for age and SES (Cycle III, 1966-1970). Compared to short (<5th percentile) NHES adolescents, our parents: 1) more often rated their child's general health as poor or fair (14% vs. 0); 2) felt their children make friends less easily (34 vs. 14%); and 3) were much more dissatisfied with the youth's height and weight (50 vs. 30%) and rate of physical growth (90 vs. 30%). Both our adolescents and the short NHES youth were similar in their marked dissatisfaction with their height (92 and 83%). There was no difference on the self esteem measure. These data indicate that pediatricians must be aware of the increased frequency of concern among parents whose adolescents present with short stature and the differences observed between our referral population and the NHES sample demonstrate that data derived from a referral population cannot be extrapolated to short children in general.