

25 **DIABETIC DYSCONTROL: A SYNDROME OF MISBEGOTTEN CHILDREN IN A METABOLIC NIGHTMARE.** F. Pidcock, D. Brashear, D. Weldon, G. Carpenter (Spon. by L. Graziani). Thomas Jefferson University Hospital/Jefferson Medical College and Children's Rehabilitation Hospital, Philadelphia, Pennsylvania.

Diabetic dyscontrol is defined as the persistence of erratic blood glucose levels in the adolescent with insulin-dependent diabetes mellitus who demonstrates proven knowledge of management. It results in multiple recurrent life-threatening episodes of ketoacidosis causing extensive familial disruption, stagnation of education, social isolation, and fragmentation of medical care.

A program for treating children with diabetic dyscontrol is described. The patient is hospitalized for an extended period (3-12 months) while a total reeducation process occurs. The focus of treatment is on uncovering the underlying factors responsible for the loss of control and to alter the patient/family relationship so that effective reintroduction into society may occur. A team of professionals consisting of physicians, nurses, psychologists, social workers, nutritionists, and recreational specialists address the specific needs of the patient, using a variety of therapeutic modalities. A series of graduated home passes challenge the patient by reinserting him/her into the community to which he/she may return. Following discharge, the patient is seen by members of the treatment team to provide ongoing support, education, and medical surveillance at regularly scheduled intervals.

The success of the program is related to the ability to correctly identify sources of conflict in the patient-family dyad, and to break the cycle of inappropriate and harmful interactions.

26 **ASSESSING ADOLESCENTS FOR AIDS INFORMATION.** Nancy Reuben; Karen Hein; Ernest Drucker; Sten Vermund; Sandra Shephard. Albert Einstein College of Medicine, Bronx Municipal Hospital Center & Montefiore Medical Center, Depts. of Pediatrics and Epidemiology & Social Medicine, Bronx, New York.

Risk-reduction programs to restrict spread of AIDS to adolescents should be based on current knowledge, attitudes and beliefs among teenagers.

A 51 item true/false questionnaire was given anonymously to 723 arbitrarily selected students in an inner city High School. Percent of affirmative answers was computed for whole group and for 3 factors: sex, grade & class standing.

The majority knew: etiology (72%); immune effects (83%); prognosis (90%); and transmission in high risk groups (74-90%), but 70% felt blood donors also at risk. 84% favored mandatory screening for homosexual men, 77% for drug addicts, 52% for armed forces but only 48% would choose confidential screening for themselves. Half favored local treatment centers while 46% of ♂ and 35% ♀ favored school exclusion.

For group comparisons, differences with a  $p < .01$  are reported. Twice as many ♀ (8%) as ♂ (4%) knew someone with AIDS. More ♂ (50%) than ♀ (36%) thought condoms prevent AIDS. Honors, regular, remedial students reported fear of personal susceptibility (60%, 62%, 74%), would consider confidential screening (38%, 48%, 63%), and expected imminent cure (35%, 42%, 50%).

Our pilot survey documents areas of misperception, fear and variable levels of factual knowledge. Differences between sexes and school achievement groups can be used as a basis for designing more effective educational interventions.

27 **ANXIETY AND ITS RELATIONSHIP TO SOMATIC COMPLAINTS IN COLLEGE STUDENTS.** Suzanne Riggs, Marlene Eckerle, Tina Cheng. (Spon. by Anthony L. Mansell). Brown University Program in Medicine, Rhode Island Hospital, Department of Pediatrics, Providence, Rhode Island

The following study was undertaken to elucidate the relationships between psychosomatic symptoms and anxiety in college-age adolescents.

194 subjects, students at an Ivy League college and patients of its health service, were studied. Half of the subjects were making visits to the health service and half were randomly selected university students who were recruited for the study. 63% of the subjects were female; 23% were freshmen, 26% sophomores, 19% juniors, 26% seniors and 6% fifth year or greater. 8% of students listed a chronic health problem such as asthma. All subjects completed the State-Trait Anxiety Inventory (STAI) and the SUNYA Revision of the Psychosomatic Symptom Checklist (PSC) a measure of somatic symptoms (e.g. headache, abdominal pain, etc.) assessed for frequency and intensity.

Mean State anxiety score was 40.3 (40.8 in females--76th percentile, 38.3 in males--61st percentile). Mean Trait anxiety score was 39.7 (40.3 for females--65th percentile and 37.3 for males--53rd percentile). The mean PSC score was 24.6 (60th percentile). There were no significant differences between the health center visit group and the recruited group for any of these scores. There was a significant correlation between the total PSC score and the State ( $r=.51$ ,  $p<.001$ ) and Trait ( $r=.60$ ,  $p<.001$ ) anxiety scores, respectively. There were also significant correlations (at  $p<.01$ ) between 10 of the 17 individual somatic symptoms on the PSC and State and Trait scores. There were no significant differences in STAI and PSC scores between different classes, nor between those with/without reported chronic health problems.

A significant correlation between some psychosomatic complaints and anxiety in one group of college students suggests that nonorganically based somatic complaints should prompt some discussion of anxiety in this age group.

28 **HUMAN PAPILLOMAVIRUS INFECTION OF THE CERVIX IN ADOLESCENTS.** Walter D. Rosenfeld, Sten H. Vermund, Shirley Saed, Robert Burk. (Sponsored by Michael I. Cohen). Montefiore Med. Ctr./Albert Einstein Coll. of Med., Dept. of Peds., Bronx, NY

Infection with human papillomavirus (HPV) is of current interest in adolescents because of its link with malignant and premalignant lesions of the uterine cervix. This study was undertaken to determine the prevalence of cervical HPV infection in adolescents and to characterize factors associated with HPV positivity. Subjects were recruited from an adolescent clinic in an urban teaching hospital. All sexually active females aged 13-21 who were to have a Pap smear were asked to participate. Specimens for HPV analysis were obtained by cervicovaginal (CV) saline lavage. DNA was extracted from cells and hybridized with radiolabeled HPV 6,11,16 and 18 probes in a Southern blot experiment. For the first 69 participants in the study the mean age was 18.0 years; 48% were Black, 38% Hispanic and 14% White. The mean gynecologic age was 5.9 years and the mean number of years of sexual experience was 2.4. 26/69 (37.7%) had HPV present in the CV cells. There were no significant differences in any of the above characteristics when HPV(+) and HPV(-) patients were compared. Having two or more lifetime sexual partners resulted in more HPV infections than having only one partner (43% vs 28%, NS). 3/23 (13%) of those who were HPV positive and 2/42 (4.8%) of HPV negative patients had Pap smears that were suspicious or atypical. This study reveals a very high prevalence of HPV infection in adolescents which may in part reflect the more sensitive technique of CV lavage and suggests a need for surveillance of this at risk population.

29 **ADVERSE PULMONARY EFFECTS OF INVOLUNTARY SMOKING ON ADOLESCENT ATHLETES.** G.V. Tsimoyianis, J.G. Feldman, M.T. Santiago, I.R. Shenker, M.S. Jacobson. (Spon by E. Scarpelli) SUNY at Stony Brook & Schneider Children's Hosp. of Long Island Jewish Med. Ctr., Dept. of Pediatrics, New Hyde Park, NY.

In a previous study we showed a relationship between involuntary smoking and increased frequency of cough and decreased pulmonary function in teenage athletes. In order to further examine this relationship we performed a second study using a larger group (314 12-17 year old high school athletes) and an interviewing instrument developed by the American Thoracic Society (ATS-DLD). A structured interview assessed pulmonary symptoms, personal smoking habits and passive cigarette smoke exposure. All subjects performed forced expiratory maneuvers on a computer assisted portable spirometer. We measured forced vital capacity (FVC), forced expiratory volume in one second (FEV1), and maximal mid-expiratory flow rate [FEF(25-75)]. The best of three acceptable measures was utilized. Of the 314 subjects, 3.2% were active smokers and were excluded. Of the remaining 304 athletes, 65% were currently exposed to involuntary smoking. We found, in multiple regression analyses, that exposure was significantly associated with lower FEV1 and lower FVC ( $p < 0.05$ ), independent of cough. The prevalence of cough was found to be five times as frequent in the exposed subjects. The two studies, taken together, establish the association of involuntary smoking with compromised airways function and cough in adolescent athletes. Pediatricians need to consider involuntary smoking in the differential diagnosis of chronic cough and decreased pulmonary function.

30 **FLUID BALANCE ABNORMALITY ON REFEEDING PATIENTS WITH ANOREXIA NERVOSA (AN).** N. Vaisman, M. Rossi, E. Goldberg, M. Corey, P. Pencharz. Dept. Pediatrics, University of Toronto, Research Institute, The Hospital for Sick Children, Toronto, Ont, Canada.

Starvation and malnutrition are associated with an altered body composition. We studied the changes in body composition on refeeding 10 girls with AN before and during 2 mos. of refeeding. Fat mass (FM) and fat free body mass (FFBM) were derived from skin-fold measurements, and total body potassium (TBK). TBK was measured by whole body counter. Extracellular water (ECW) was measured by oral bromide.

|             | Admission   | At Peak of ECW (2-4 w) | Discharge (5-8 w) |
|-------------|-------------|------------------------|-------------------|
| Weight (kg) | 37.5 ± 5.9  | 38.5 ± 6.2**           | 42.4 ± 5.6***     |
| FFBM (kg)   | 30.9 ± 4.0  | 31.5 ± 6.2*            | 32.2 ± 2.9*       |
| TBK (gr)    | 73.9 ± 12.8 | 81.8 ± 13.6            | 84.9 ± 12.1       |
| FM (kg)     | 6.2 ± 2.4   | 7.6 ± 2.8*             | 9.0 ± 2.6**       |
| ECW (liter) | 12.8 ± 1.8  | 13.9 ± 1.9***          | 11.7 ± 1.0        |
| ECW/BW %    | 31.8 ± 5.4  | 35.9 ± 5.6***          | 28.8 ± 1.9*       |

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$  (compared to admission)

A gradual increase was noticed in wt, FM, FFBM and TBK over refeeding. However, ECW was expanded on admission and increased in all our patients on the first weeks of treatment, coming down to normal later on.

We concluded that refeeding is associated with abnormal expansion of the extracellular bed. Most of the changes in FFBM over the first weeks of refeeding can be accounted by the expanded ECW. This expansion is most probably due to abnormal fluid handling by the kidney. Fluid balance and fluid restrictions should be kept, to avoid fluid overload on refeeding.