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**THE NEUROLOGICAL MANIFESTATIONS IN CHRONIC LEADED GASOLINE INHALATION - S.S. Seshia, K.R. Rajani, P.N. Chow, R.L. Boeckx, (Spon. by J.C. Haworth),**

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The neurological findings in 50 children and adolescents, known to have been sniffing leaded gasoline for periods of 6 months to over 5 years, were analysed. 46/50 patients (92%) had abnormal signs on initial examination: i) 34/46 patients (73%) had abnormally brisk deep reflexes, ii) 31/46 (67%) had cerebellar signs, 29 of these 31 patients showing intention tremor and iii) 28/46 (60%) had postural tremor. 49/50 patients (98%) had blood lead (Pb) levels > 40 µg/dl and in 22 the blood Pb was ≥ 80 µg/dl. The mean blood Pb levels were significantly higher ( $p < 0.05$ ) in those with a) abnormally brisk deep reflexes, b) marked intention tremor, c) ataxic stance and d) ataxic gait, than in those without these findings. 39 patients received chelation therapy. Regardless of therapy, of the 46 patients with abnormal signs, resolution occurred within 8 weeks in all but one; this patient continues to have abnormal signs a year later. Our report draws attention to the neurological manifestations in chronic leaded gasoline sniffers. The possibility of the abuse of a solvent such as leaded gasoline should be considered in children and adolescents showing abnormally brisk deep reflexes, cerebellar dysfunction and postural tremor.

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**A RETROSPECTIVE STUDY OF REDUCTION MAMMOPLASTY IN ADOLESCENTS AND YOUNG ADULTS. I. Ronald Shenker, Marsha Sonnenblick, Alvin Harris and Susan Freeman**

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The emotional effects of surgical cosmetic manipulation of the breasts were evaluated by administration of a structured interview, questionnaire, Minnesota Multiphasic Personality Inventory (MMPI) and human figure drawings. Six subjects who had undergone reduction mammoplasty between 4 months and 4 years prior to study (age range 15 to 21) were available for interview. All were pleased with the results and felt the quality of their lives improved. Self image was subjectively enhanced, however, the human figure drawings of three patients were grossly immature. MMPI revealed a high degree of social extroversion in all subjects. Denial was high in 5 subjects. Wide variation was noted on the masculinity-femininity scale. Two patients married, one has become engaged subsequent to surgery. The major improvement reported was a loss of self consciousness of what had been considered as a serious deformity. Whereas the cumbersome breasts had inhibited participation in sports before surgery, all subjects reported increased athletic activity at the time of interview. Previously very restricted in their dress all were observed to be wearing attractive and revealing clothes. None had regrets about subjecting themselves to the procedure. Both subjective reporting and objective testing revealed no deleterious effects, and reduction mammoplasty can be considered beneficial intervention.

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**SELF IMAGE OF ADOLESCENTS WITH SHORT STATURE AS MEASURED BY HUMAN FIGURE DRAWINGS. I. Ronald Shenker, Marsha Sonnenblick, and Michael Nussbaum, (Spon. by Philip Lanzkowsky), Sch. of Med., Health Sciences Ctr. State Univ. of N.Y. at Stony Brook, Long Island Jewish-Hillside Med. Ctr., Dept. of Ped., New Hyde Park, N.Y.**

Delayed pubertal development and short stature are potential sources of dissatisfaction with body image during adolescence. Human figure drawings were studied to assess the emotional impact of delayed growth and development. Drawings of 54 boys who complained of short stature between the ages of 12 and 18 and whose height fell below the third percentile were analyzed. A control group was selected and matched for age and absence of pathology. Both male (first) and female (second) drawings were analyzed qualitatively and given a rating of normal, immature or disturbed. Quantitative analysis consisted of measurement of the height of the first and second figure drawings from shoulders to feet. The data was subjected to an analysis of variance. Qualitatively both short stature patients and controls produced similar numbers of normal drawings. However, immature or disturbed drawings predominated for both groups. Chi square analysis (< .02 level) indicated that short stature subjects drew more disturbed figures while controls drew immature ones. No significant differences were noted in quantitative evaluation. It is our impression that short stature is not always reflected in drawings. The deviance from normal in drawings of short stature patients is reflected by disturbed rather than immature drawings which are frequently seen in normal adolescents.

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**RISK FACTORS FOR HYPERTENSION IN COLLEGE STUDENTS.**

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1,948 college students were screened in a voluntary walk-in blood pressure (BP) clinic. 142 students (7.2%) were found to have systolic pressures > 140mm of Mercury and/or diastolic pressures > 90mm of Mercury on three consecutive readings taken on different days. Of the hypertensive students, 120 were males (10.9%) and 22 were females (2.6%).

Groups	n	Increased BP
Screened	1948	142 (7.2%)
Males	1100	120 (10.9%)
Females	848	22 (2.6%)

503 (25.8%) gave a history of hypertension in an immediate family member. A prior history of an elevated BP and a family history of hypertension was more common in the group that had an elevated BP (B) than that with a normal BP (A).

Groups	n	Prior Hx	Family Hx	
Screened	1948	503 (25.8%)	587 (30.0%)	
(A) Normal BP	1806	417 (23.1%)	523 (29.9%)	$p < .01$
(B) Elevated BP	142	86 (60.6%)	64 (45.0%)	$p < .01$

The risk factors of sex and family history appear to be important for this age group; however, age and class ranking (Freshman through Senior) demonstrated no significance.

## BEHAVIORAL SCIENCE

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**PROSPECTIVE STUDY OF FACTORS PREDISPOSING TO NON-ORGANIC FAILURE-TO-THRIVE (NOFT). William A. Altemeier III, Peter M. Vietze, Kathryn A. Sherrod, Howard M.**

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A 40 minute standardized interview (INT) based on factors previously associated with child neglect and abuse, was given to 1400 consecutive low income prenatal patients after informed consent. Using arbitrary criteria, 273 were selected as high risk (HR). NOFT (< 2/3 average weight gain due to inadequate feeding) was diagnosed and managed without knowledge of HR status. The incidence of NOFT in 228 infants born to HR mothers was compared to 200 infants selected randomly from all remaining mothers (LR). NOFT occurred in: 20 of 197 HR and 5 of 180 LR infants at age 2-18 weeks ( $p < .01$ ): 16 of 159 HR and 4 of 132 LR at 8-18 weeks ( $p < .05$ ): 14 of 110 HR and 3 of 110 LR at 18-32 weeks ( $p < .01$ ). The correlations ( $r$ ) of individual INT parameters with NOFT were determined in 274 mothers selected randomly from all 1400. Family life stress, and maternal (MAT) nurturance as child, support from others and parenting discipline skills had highest  $r$  ( $p < .05$ ); MAT pregnancy attitude, personality traits and child development knowledge had lower  $r$  ( $p > .05$ ). Non-INT parameters with highest  $r$  were poor MAT child-rearing attitudes at 8 months gestation and perception of her child as difficult to care for at 1 and 3 months;  $r$  approached  $p .05$  for low birth weight and female sex of infant, and low MAT education, MAT age parity race and pregnancy complications, and Brazelton scores, had low  $r$  ( $p > .05$ ).

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**THE EFFECT OF DDAVP ON PASSIVE AVOIDANCE LEARNING IN LESCH-NYHAN DISEASE. Lowell T.**

Anderson, Raphael David, Kenneth A. Bonnet, Joseph Dancis. N.Y.U. School of Med., Dept. of Ped. & Psych. NYC

A most disturbing aspect of Lesch-Nyhan disease is self-mutilation which can lead to loss of fingers and lip tissue. We have previously reported that the children can be trained not to self-injure using positive reinforcement and time-out procedures. An unexpected observation was that they failed to learn from aversive stimulation suggesting the possibility that this may be primary to the behavior disorder. We have now demonstrated in 3 L.N. children, ages 7, 12 and 13 years, that 20 µg of l-Deamino-8-D-Arginine-Vasopressin (DDAVP), a vasopressin analogue, administered one hour prior to testing will partially restore the ability to learn from aversive stimulation. This approach was suggested by reports of behavioral studies on the vasopressin deficient rat.

The patients were taught to press a lever to receive a reward of a penny. The mean rate was 2.8/min. When lever-pressing was coupled with a finger shock (0.5 ma for 0.5 seconds) the mean rate was 3.4/min confirming under controlled conditions a defect in passive avoidance learning. When DDAVP was administered, the mean rate was 4.0/min without shock and 0.3/min with shock. The experimental observations were repeated three or four times over a period of weeks in each child with consistent results. The effect of one dose lasted approximately 24 to 36 hours.