

at days 12 and 13; 8 micro Mol/L. at day 14 produced 65% of clefts.

IN-VITRO. Fusion of the isolated 14 day foetal palatal shelves was inhibited by a level of retinyl palmitate in the culture medium of the same order as that found to prevent fusion in the 14 day foetus "in utero".

Correlation of the morphology of experimental clefts, the quantitative parameters and the types of cleft presenting in man will be demonstrated and thus give a quasi-quantitative basic model of the human malformation.

This investigation was supported by the Medical Research Council of Great Britain and the Scientific and Research Committee of the Newcastle University Hospitals.

JENSH, R.P., J. LUDLOW*, I. WEINBERG*, W.H. VOGEL*, T. RUDDER*, and R.L. BRENT. Departments of Anatomy, Pharmacology, and Radiology, Thomas Jefferson University, Philadelphia, Pennsylvania. Studies concerning the effects of protracted prenatal exposure to a non-thermal level of 2450 MHz microwave radiation in the pregnant rat.

Twelve pregnant Wistar rats were exposed to 2450 MHz microwave radiation in an anechoic chamber 8 hours daily throughout pregnancy (mean = 115 hours). Since previous studies had indicated that power intensities to 20 mW/cm², inclusive, were non-thermal, i.e., did not cause an increase in body temperature throughout the test period as measured by a rectal thermocouple probe, this dosage level was used. Concurrent control animals were placed in the chamber for similar time periods. All animals were killed on the 22nd day of gestation, their uteri exteriorized, and fetal positions and resorption sites recorded. All fetuses were dissected using Wilson's cross-sectional technique. Data were analyzed and compared with historic baseline control groups. No significant differences among groups were observed for the following parameters: initial maternal weight; term maternal weight; maternal weight gain; embryonic and fetal resorption rates; abnormality rate; and term fetal and placental weights. Using these parameters as indices, the present results indicate that exposure of pregnant rats to a non-thermal but threshold level of 2450 MHz microwave radiation 8 hours daily throughout gestation does not adversely affect the offspring.

(Supported by NIH Grant #ES0-1121)

John*, J. A., F. J. Murray*, F. A. Smith*, and B. A. Schwetz, Toxicology Research Laboratory, Dow Chemical U.S.A., Midland, Michigan. Teratologic evaluation of vinyl chloride, vinylidene chloride, and styrene in laboratory animals.

Teratologic studies on a series of monomeric substituted vinyl-chemicals widely used in the

plastics industry have been conducted in laboratory animals. The chemicals, routes of administration, species, and dose levels are as follows: vinyl chloride - inhalation - mice, rats, rabbits - 50, (mice only), 500, 2500 (not mice) ppm; vinylidene chloride - inhalation - rats, rabbits - 20 (rats only), 80, 160 ppm, drinking water - rats - 200 ppm; styrene - inhalation - rats, rabbits - 300, 600 ppm, gavage - rats - 180, 300 mg/kg/day. The current TLV's for these chemicals are 1, 20 and 100 ppm, respectively. Each chemical was administered throughout major organogenesis. Teratogenic effects were not observed in any species with any of these monomers.

KALTER, H., Children's Hospital Research Foundation, Cincinnati, Ohio. Failure of testosterone to modify the development of a spontaneous eyelid abnormality in mice.

An attempt was made to modify the pronounced sex difference in the frequency of spontaneous open eyelid in A/JKt mice by hormonal means. Pripaprous females were anesthetized with nembutal (0.05 mg/g, ip) on the 15th day of gestation (about 2 days before the lids usually close), an incision was made through the skin of the nape, and about 1/3 of a 75-mg pellet of testosterone (Oreton, Schering) was inserted subcutaneously and the wound closed with surgical staples. The same procedure was followed in controls except no testosterone was inserted. The females were killed 4 days later, i.e., 1 day after the lids usually close and 2 days before expected parturition, and the offspring were removed, examined, and sexed by inspection of the gonads. Female offspring were externally masculinized, the anogenital distance in them being indistinguishable to the eye from that in males. The resorption rate was similar in the experimental and control groups (17.0 and 19.4%). The hormone had no effect on eyelid development. The overall frequency of open eyelid was 15.4% in the experimental group and 14.0% in the control; and was 21.3% in males and 8.9% in females in the former; and 20.8% in males and 7.7% in females in the latter. Perhaps earlier treatment or administration of a larger dose would be successful.

KHERA, K.S., and B.G. SHAM*, Bureau of Chemical Safety, Health and Welfare Canada, Ottawa, Ontario. Failure of zinc acetate to reduce teratogenicity of ethylenethiourea in pregnant rats.

Ethylenebisdithiocarbamate fungicides, their degradation and a probable metabolic product-ethylenethiourea (ETU), and maternal zinc deficiency during pregnancy, have all produced strikingly similar anomalies in rats. Mechanism of

teratogenic fungicides), effects observed dosing of a been attributed hence zinc c 14, 171-184; action can't investigated of the ten control diet pregnancy. groups also that their c from the 11 to give a de day. On 13th group each f dams, was g illd water) subcut. Th 3 hours post levels in t serum or lat incidence of skeletal and indicated th effective in togenicity, conceptus an altered upon injecting ET

KING, DOROTHY J.L. HSU*, De Taiwan Univers Effects of zinc d-aminolevulin: embryo.

Chick tera inhibitory eff on d-aminolevu activity have l tory. Further to test the eff enzyme. For th collected by h 19-day chick ex method of Weiss ALAD activity t at 555 mu per showed that zin inhibited the there was no ir inhibition due dent. The maxi when 0.04 mg of ovo on the 4th of lead acetate with 1 mg of zi action between action disappear lead acetate w 1 ug zinc coul of lead on ALAD level of 0.01 (Supported by Science Council

Teratology: 17:48A, 1978