

DDT and its derivatives in the brain of the mice born from the parents with DDT administration and body weight changes.

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Female and male B6C3F₁ mice, 4 weeks of age, were used. Mice were divided into 3 groups (8 mice each). One of the 3 groups was fed with the cellulose-rich and low-energy (332 kcal/100g) diet (Group C), and both of the remaining 2 groups (Groups B and D) were fed with the butter-rich and high-energy (404 kcal/100g) diet. Half mice in each group were orally administered 20 mg/kg of DDT dissolved in peanut oil, and the half were administered peanut oil only. The administration was conducted once a week and repeated 10 times (until 14 weeks of age). After the administration of DDT, feeding in Group D was changed to low-energy, and the mice were loaded running for 20 minutes (18 m/mm) everyday. When mean body weight of the mice in Group D was significantly lower than those in Group B, female and male within the each group were mated.

Experimental design

Group	Weeks of age																						
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
DDT-B	○	○	○	○	○	○	○	○	○	○				♡			☆			×			
DDT-D	○	○	○	○	○	○	○	○	○	○	△	△		♡			☆			×			
DDT-C	○	○	○	○	○	○	○	○	○	○				♡			☆			×			
OIL-B	●	●	●	●	●	●	●	●	●	●				♡			☆			×			
OIL-D	●	●	●	●	●	●	●	●	●	●	△	△		♡			☆			×			
OIL-C	●	●	●	●	●	●	●	●	●	●				♡			☆			×			

○ : DDT administration once a week ♡ : mating
 ● : peanut oil administration ☆ : childbirth
 △ : loaded running 20 min/day × : weanling
 □ : fed with low-energy diet
 ■ : fed with high-energy diet

The weanling mice in each group were fed with the same diet as those parents. At the 21 weeks of age, all the mice were killed, and DDT and its derivatives in the brain were measured by the GC-ECD.

pp-DDE concentration in the brain of mice born from the parent of each group.

Administration	Feeding group			ANOVA
	Group B	Group D	Group C	
DDT	10.90 ± 0.98 ^a	15.69 ± 2.41 ^b	12.38 ± 2.88 ^a	p < 0.05
OIL	ND	ND	ND	

Values show mean ± SD of pp-DDE (ng/g) in the brain. Different letters, a and b for each feeding groups are significantly different (p < 0.05) by Tukey's multiple range test.