

POSTER COMMUNICATIONS

The effect of fenfluramine on obesity in rats—a new method for the screening of potential antiobesity agents

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While studying the effect of age and initial body weight on the development of obesity, Schafani & Gorman (1977) showed that rats offered a diet of various supermarket foods overate and became obese. It was therefore decided to investigate the potential of this procedure for identifying anorectic activity, a method which may have more relevance to clinical obesity than currently available methods depending on 2 h feeding regimens. Fenfluramine was chosen for this study being a widely used antiobesity agent.

Female Wistar rats (University of Bath strain) initial weight 211 ± 3 g were housed in groups of 6. Each group received daily: cheese, luncheon meat and dried fruit (50 g), and chocolate (40 g) and either tinned fruit salad (100 g), 'Rice Krispies' (80 g), mal-low biscuits and 'Ritz Cheddar Crackers' (40 g) or 'Sugar Puffs' (50 g), peanut butter on water biscuits (60 g + 40 g) and digestive biscuits (50 g). Oxoid 41 B pellet food was freely available. The experiment was carried out in two 5 week periods; initially groups A and B received no drug in the drinking water and group C fenfluramine hydrochloride (0.1 mg/ml) giving a daily dosage of approximately 10 mg/kg. After 5 weeks, fenfluramine was withdrawn and group B received the drug as above. Group A was used as a control throughout. Group D were fed Oxoid 41B pellets and water only. Animals were weighed weekly. At the end of the study the rats were killed and the wet weight of abdominal fat recorded.

Figure 1 shows that this diet produces a significant increase in weight—for instance, for group A the increase was 157.5 ± 14.7 ($P < 0.001$)—which was di-

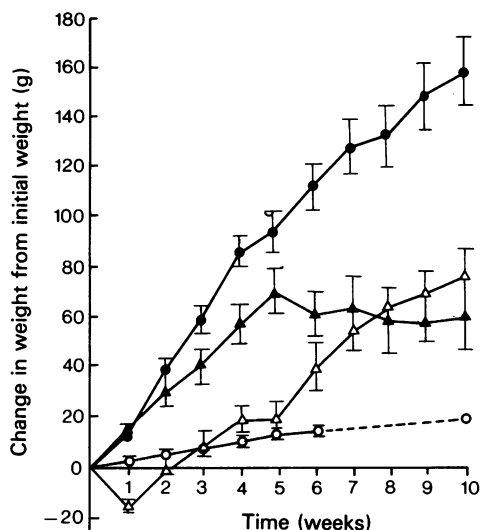


Figure 1 Changes in body weight (mean \pm s.e. mean, $n = 6$ for all groups). (●) Group A control supermarket foods, (▲) Group B fenfluramine from week 5, (△) Group C fenfluramine until week 5, (○) Group D control Oxoid 41 B diet.

rectly related to the deposition of abdominal fat estimated post mortem: group A 56.9 ± 4.9 g, B 30.3 ± 3.0 g, C 35.8 ± 2.4 g, D 13.2 ± 1.5 g. The results with fenfluramine suggest that this model will be of use in the screening of potential antiobesity agents.

We thank Servier Laboratories Ltd for the supply of fenfluramine.

Reference

- SCHAFANI, A. & GORMAN, A.N. (1977). Effects of age, sex and prior body weight on the development of dietary obesity in adult rats. *Physiol. & Behaviour*, **18**, 1021–1027.