

# Remarkable increase of peroxisomes in the renal tubules cells of Japanese monkeys under fasting stress

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Received 10 April 1995;

accepted 18 April 1995. ;

Available online 19 January 2000.

## Abstract

As an extension of work on peroxisome proliferation in the kidney, fine structural alteration of epithelial cells of renal tubules of male and female Japanese monkeys under fasting stress was examined. A total of 6 monkeys (male 3, female 3) for control groups and 9 monkeys (male 4, female 5) for fasting groups were used for this experiment. Both the number and area of peroxisomes per unit cytoplasmic area (number/ $\mu\text{m}^2$  and  $\mu\text{m}^2/\mu\text{m}^2$ ) in the epithelial cells of renal tubules significantly increased in fasting groups. It was more evident in the males than in females. The activity of catalase was localized on the matrix of peroxisomes. In fasting groups peroxisomes had two or more marginal plates. Proliferated peroxisomes were hexagonal or polygonal in shape. Microperoxisomes, which are not significant in the control groups, also increased under fasting stress.

**Author Keywords:** Fasting; Stress; Peroxisome; Marginal plate; Kidney