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EFFECT OF CAPSAICIN ON BODY FAT MOBILIZATION

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Capsaicin (Cap) and its derivatives are the pungent components of hot red pepper, and are used as a condiment. Iwai et al. observed that Cap enhanced energy metabolism and stimulated catecholamine secretion from the adrenal medulla. The present study was undertaken in order to clarify further detailed effect of Cap on body fat mobilization.

Male, Wistar-slc rats and SHR were used for this experiment. Firstly, Cap was administered by intraperitoneal injection (4mg/kg), and serum non-esterified fatty acids (NEFA) and total catecholamines levels were measured. Secondly, Cap containing diet was fed to the rats, and catecholamines content in inter-scapular brown adipose tissue (IBAT) was measured by HPLC. Finally, adrenalectomy was undertaken in order to clarify the role of IBAT on norepinephrine release and to exclude the effect of adrenals.

It was observed that the levels of NEFA and total catecholamines in plasma were elevated with the injection of Cap. Dietry Cap had an enhancing effect of norepinephrine level in IBAT. The important role of brown adipose tissue on repressing the fat deposition was confirmed by the experiment of adrenalectomy.

Key word : Capsaicin, Catecholamine, Brown Adipose Tissue