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Hypoglycemic effect of pigmented germinated rice in ovariectomized rats

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The effect of pigmented non-germinated and germinated rice grains, the sample namely Keunnunjami (KJ), Superjami (SJ), Superhongmi (SH) and Normal Brown Rice (NB) on glucose metabolism in ovariectomized (OVX) Sprague-Dawley rats. Animals were randomly divided into nine groups (n=3) and fed with non-germinated and germinated rice for 9 weeks. Body weight and blood glucose level were checked every 3 weeks, at the end of experimental diet, glucose regulating enzyme activities were determined from plasma, liver and kidney. Germinated NB, KJ and SJ groups body weight gain were significantly lower than normal control (NC) group and non-germinated NB, KJ and SJ groups. The NC group was significantly increased in the blood glucose concentration. Germinated groups showed significantly lower gluconeogenic enzymes glucose-6-phosphatase (G6Pase) and phosphoenolpyruvate carboxykinase (PEPCK) activities than the NC group and non-germinated groups. Also germinated groups exhibited significantly higher glucokinase (GK) activities than the NC group and non-germinated groups especially KJ and SJ groups. Compare with the NC group, other groups hepatic glycogen were significantly lower, especially KJ. Furthermore, germinated groups showed significantly lower plasma insulin concentration than non-germinated groups. These results indicated that pigmented germinated rice KJ and SJ will be more benefit for glucose-regulating level than normal brown rice.

Biography

Xingyue Jin has completed her BE at Yanbian University and currently doing Master's course at Kyungpook National University, Japan. Her research area of interest is various food functions and metabolism.

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