Kawasaki Journal of Medical Welfare Vol.7 No.2 2001 91-96

Natural Sciences

Long-term Effects of a 30% Hepatectomy on Serum Biochemistry and Longevity in Male Adult Rats

Yorika Imachi[1)], Akifumi Ono[2)], Shuji Matsueda[3)] and Tetsuro Morita[4)]

Department of Clinical Nutrition Faculty of Medical Professions Kurashiki, Okayama, 701-0193, Japan[1)]

Department of Clinical Nutrition Faculty of Medical Professions Kurashiki, Okayama, 701-0193, Japan[2)]

Department of Clinical Nutrition Faculty of Medical Professions Kurashiki, Okayama, 701-0193, Japan[3)]

Department of Clinical Nutrition Faculty of Medical Professions Kurashiki, Okayama, 701-0193, Japan[4)]

(Accepted 2001-11-06 00:00:00+09)

Key words:hepatectomy, average longevity, triglycerides, serum biochemistry, long-term

Abstract

The long-term effects of a 30 % hepatectomy on age-related changes in serum biochemistry and longevity were studied in rats. Adult Sprague-Dawley rats were divided into a 30 % partial hepatectomy (30%H, n=7) and a sham-operated control (N, n=9). Blood was collected at 12 weeks, 24 weeks and 48 weeks after partial hepatectomy, and changes in serum biochemical parameters and effects on longevity were studied. By 12 weeks, the serum aspartate aminotransferase (AST) and alanine amino transferase (ALT) had usually returned to within normal limits. Hepatic function maintained normal serum protein, albumin, glucose and cholesterol levels, but serum triglyceride concentration increased in the 30%H group. Forty eight weeks after surgery, the majority of vital liver functions had returned to normal, but average longevity of the 30%H group was lower than that of the normal group.