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Preliminary investigations on the rate of gastrointestinal transit of guru and laghu substances in rats

We tested a method to experimentally demonstrate the rate of gastrointestinal transit of Undu – Phaseolus radiatus L. (as a Guru substance) and Green-gram – Phaseolus mungo L. (as a Laghu substance) in order to interpret the Guru (heavy) and Laghu (light) concept in Ayurveda. Albino rats (Wistar, 265g± 35 g, obtained from MRI, Sri Lanka) were used 10% activated charcoal powder was added to each substance as a gastrointestinal transit marker.

The 10Xsubstances were given orally as a suspension at a dose of 4ml/ animal and the rats (n=6/ group) were sacrificed 15, 30 45 and 60 minutes after oral administration. The abdomens were excised; small intestines were removed to measure the entire length of small intestine and the distance traversed by each substance. Thus the gastrointestinal transit of each rat was computed. The means were compared by student t-test. There was a general tendency to increase the gastrointestinal transit with the increase in time in Undu as well as Green-gram. After 15, 30, 45 and 60 minutes of oral administration, the distance traversed by Undu and Green-gram were 59.4 ± 2.51, 58.2 ± 2.36, 67.0± 2.47, 82.1± 2.75 and 63.9 ± 3.67, 68.8 ± 3.02, 75.6 ± 0.72, and 94.7 ± 2.72 percent of the small intestine respectively.

The gastrointestinal transit of Green-gram group was significantly higher than the Undu group at 30 (10.6 %, p, 0.05), 45(8.6%, p, 0.01) and 60(12.6%, p, 0.01) minutes showing a highly significant difference between the passage of Undu and Green-gram in the small intestine of rats. Therefore these data provides experimental evidence to the light and heavy concept with regard to digestion of Guru and Laghu substances.