Original Contributions

A Simple Method of Permanent Gastric Cannulation in Laboratory Rodents*

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Summary. A simple method for permanent gastric cannulation in rat is described. The cannula remained feasible for 2 months or more, and water loading, forced administration for artificial diets, or gastric juice withdrawal could be performed without any apparent disturbance of the animals.

Key words: Gastric cannulation – Chronic oral infusion – Laboratory rodents

Introduction

Physiology and pharmacology laboratories are in need of a suitable method of gastric administration of drugs, synthetic nourishment, water loading, or withdrawal of gastric juice in laboratory animals. The current techniques of acute gastric catheterization (Hanna and Alcock 1961; Clark and Harland 1969), generally yield intense stress, causing alterations in the experimental results.

Herein described is a simple, rapid, and inexpensive method to obtain chronic implantation of a gastric cannula in rat, which can be adapted to either big or small rodents and also to other species of animals.

Materials and Methods

Animals

Rats of the Sprague-Dawley strain of both sexes were used throughout these experiments; they weighed 150–250 g and were housed in individual cages in the rat room kept at an environmental temperature of 20–22°C, having free access to food and water.

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Fig. 1. Cannula dimensions and assemblance of the proximal (right) and distal (left; detail above) portion

Fig. 2. a Proximal portion of the cannula crossing the stomach and abdominal wall; detail: intragastric position of the cannula proximal end and type of suture performed in the stomach wall cut. b Subcutaneous trajectory of the distal portion of the cannula and its back exteriorization. The distal subterminal piece of sheet is shown already attached