CANNULATION OF THE RUMEN IN COW: EXPERIMENTAL STUDY OF TWO METHODS

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The complexity of ruminant digestion presents opportunity for studying ruminant digestive physiology. For many years, different types of rumen cannulas and cannulation methods have been used to sample digesta or to insert alternative measures of digestibility, such as mobile bags. Despite widespread use of ruminal cannula in researches, the search continues for improved cannulas and methods of cannulation to reduce post-surgical complications and experimental problems, increase the longevity of the preparation and permit more easy collection digesta.

In order to do this experiment ten first-lactating Holstein cows (mean 542 Kg) were selected. Five of them (group1) were surgically fitted with simple high density cannulas in the rumen and in the rest cows (group2), a small part of lateral wall of dorsal sac of the rumens were exteriorized and squeezed between two heavy metallic bar. In group1 after left flank laparotomy, the lateral wall of dorsal sac was approached and after circular incision on it, the high density (Polyethylen) cannula was inserted. In group2, after exposing lateral wall of dorsal sac through small laparotomy incision, a small part of it was squeezed between two heavy metallic bar and left for a few days. Cows were fed diets containing 50% alfalfa. After a few days when the squeezed parts of rumens of group2 were gangrened and fallen down, flexible (Polyvinyl chloride) were inserted in prepared ruminal fistula. For two 1 year two group were observed. The process of cannula insertion in group2 was very simple and easy but in group2 needed to large laparatomy incision. The exit sites of cannulas abdominal wall in group1 produced pus over the study time while conjunction line of rumen and skin around the exit sites of cannula in group2 were out of pus. Our study showed that surgical operation of insertion of flexible cannula is greatly time consuming and has the least disturbance.

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