The present studies also show that while octapressin increases arterial pressure in the dog subjected to shock, it does not reverse the fall in cardiac outut brought about by endotoxin or hemorrhagic shock. In fact, cardiac output was further depressed by octapressin suggesting that the rise in the systemic pressure was accomplished at the expense of further increase in peripheral resistance. Moreover, the animals with shock seem to require larger doses to obtain a comparable rise in systemic pressure. This suggests a diminished responsiveness of the shocked animal to octapressin. These hemodynamic changes together with the severe side effects observed during administration of this agent to humans suggest that octapressin may have little use in the clinical management of shock.

Summary. 1. Circulatory effects of octapressin were investigated in normal human subjects, in normotensive dogs and in dogs subjected to endotoxin or hemorrhagic shock. 2. In normotensive dogs, octapressin produced a rise in arterial pressure and a fall in cardiac output, carotid and femoral flows, with a lesser fall in renal flow. 3. In dogs subjected to endotoxin or hemorrhagic shock, octapressin produced a rise in arterial pressure but did not reverse the fall in cardiac output. A larger dose was required to produce a given pressure rise in these animals. 4. In human subjects, octapressin decreased glomerular filtration rate, renal plasma flow, and the excretion of water and electrolytes.

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A Modification of the Traditional Thiry-Vella Loop for Precise Quantitative Absorption Studies. (29033)

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In 1864 Thiry(1) described his isolation of a segment of small intestine with its mesentery attached and reestablishment of bowel continuity by an end-to-end anastomosis. One terminal of the isolated loop was closed off, and the other led out and fastened to the skin. Later, Vella successfully performed a modification of the Thiry procedure by bringing both ends of the isolated loop of bowel out of the abdominal cavity onto the skin surface(2). This double orifice preparation has come to be known as the Thiry-Vella loop.

Leakage from the skin orifices of the standard loop proved incompatible with precise quantitative recovery, and in 1886 Gumilewski(3) proposed the modification of an internally placed balloon wrapped around the test catheter and inflated when the tube had been placed inside the Thiry-Vella loop. In 1902 Nagano described the use of a Thiry fistula with an internal water-filled balloon (4). Cobet, 1921, held his catheter in the fistula opening by individually custom-fitted internal and external balloons, thereby attempting to prevent catheter displacement and leakage due to inward migration by peristalsis(5) (Fig. 1).

Johnston(6) later published an operative modification of the Thiry fistula. He inverted

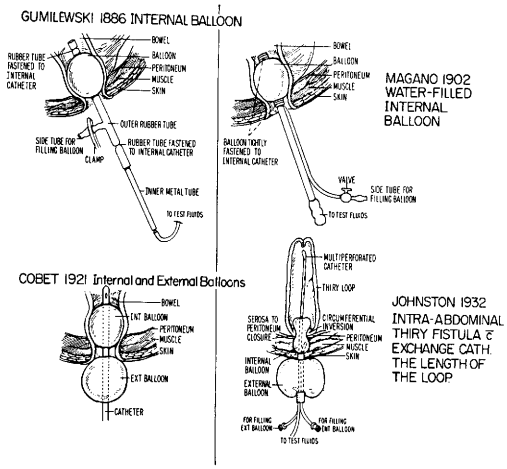

FIG. 1

the cutaneous end of the intestinal loop over a large rubber tube by 2 purse string sutures, creating an intra-abdominally placed loop. In 2 weeks this tube fell out and the fistula was ready for use. He employed an exchange catheter the length of the loop, held in place at the skin border by inner and outer balloons (Fig. 1).

Present modification. Method and results. After isolation of a segment of small intestine and reestablishment of bowel continuity, the terminal 2 inches of both ends of the isolated loop are narrowed in diameter. Five or six sutures of 4/0 silk are passed through the bowel wall in the Lembert fashion along the antimesenteric border and drawn tight with a resultant invagination of a portion of the loop ends (Fig. 2). The open ends are then brought out through the abdominal wall and fastened to the skin edge. In 10 days the loop is ready for use.

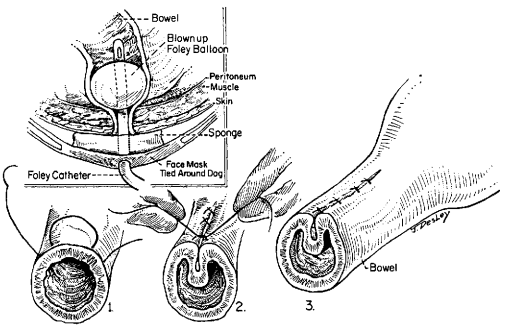

FIG. 2. Method of narrowing ends of the isolated intestinal loop: 1. suture placed in the Lembert fashion along the antimesenteric border. 2. sutures drawn tight with resultant invagination of the bowel. 3. projection showing constricted terminal portion with respect to the normal bowel diameter. *Insert:* Fully assembled leak-proof system for precise quantitative bowel exchange experiments.

When the dog with an established intestinal loop is employed for a precise balance absorption study, #30 Foley catheters are introduced into both ends of the isolated loop and inflated with 5 cc of air. The catheters are snugged against the abdominal wall by means of a sponge rubber square with a central hole for the catheter fastened by a perforated surgical cloth mask tied tightly around the animal's abdomen (Fig. 2). Test fluid is injected *via* one catheter, with the other one clamped, and the fluid confined between clamped catheters until it is time to wash out the loop contents *via* the efferent catheter by means of saline, followed by air infusions at the afferent end.

With employment of this technique the blown-up Foley catheter can be so anchored as to prevent inward migration of the tube and at the same time obtain a leak-proof seal at the orifice with no danger of extrusion of the balloon through the narrowed terminals of the isolated loop. Numerous precise quantitative absorption studies have been carried out without spillage of confined test fluid.

Summary. A brief history of the Thiry-Vella loop and its modifications is presented. A satisfactory simple innovation to facilitate precise quantitative balance studies without spillage of test fluid is described.

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