

FORMATION OF AN ISOLATED GASTRIC POUCH ON THE ANTERIOR WALL BY A MODIFICATION OF A. M. UGOLEV'S METHOD

V. V. Zolotov

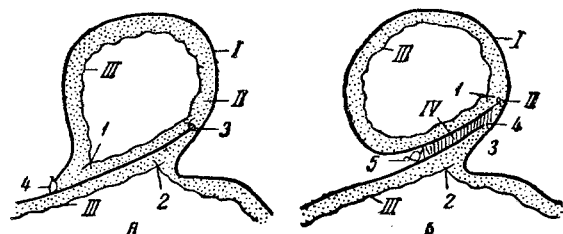
Department of Anatomy and Physiology of Man and Animals (Head, Professor V. E. Robinson),
Ryazan' Pedagogical Institute

(Presented by Active Member AMN SSSR A. V. Lebedinskii)

Translated from *Byulleten' Éksperimental'noi Biologii i Meditsiny*, Vol. 54, No. 11,
pp. 122-123, November, 1962

Original article submitted March 13, 1962

The use of A. M. Ugolev's method of formation of an isolated gastric pouch [3] has revealed many of its advantages. The pouch is cut not only from the greater curvature, but also from part of the lesser curvature and from the intermediate area. It has an abundant nerve supply and therefore more fully reflects the secretory function of the stomach itself.



Scheme of the isolated gastric pouch on the anterior wall. A) Pouch formed by A. M. Ugolev's method; B) pouch with wall strengthened by a second sero-submucosal suture; I) serosa; II) muscularis and submucosa; III) mucosa; IV) omentum; 1) muco-mucosal suture of the isolated pouch; 2) muco-mucosal suture from the main part of the stomach; 3) sero-submucosal suture from the main part of the stomach; in scheme A; 4) sero-serosal suture; in scheme B; II) sero-submucosal suture from the gastric pouch side; 5) sero-serosal suture.

Some difficulty is experienced from postoperative complications, including the formation of a fistula between the pouch and the main part of the stomach. Attempts to strengthen the wall between the pouch and stomach by means of an omental graft have not proved successful. We have strengthened the wall between the pouch and main part of the stomach by introducing an additional sero-submucosal suture from the pouch side. This suture guarantees the complete isolation of the pouch (see figure).

To form the second sero-submucosal wall, a strip of mucosa is removed, but 10-15 mm wide and not 3-4 mm as Ugolev suggests. Next, by means of muco-mucosal sutures (see figure, 1 and 2) the vaults of the main stomach and the pouch are formed. The serosa of

Secretion of the Isolated Gastric Pouch after a Meal of 100 g Meat (mean data)*

Dog's name	Weight of dog (in kg)	Latent period	Secretion of juice (in ml during 1 h)							Digestive power		Acidity (% HCl)
			1st	2nd	3rd	4th	5th	6th	total	in Mett's units	in Hunt's units	
Sharik	20.5	2 min 51 sec	21.3	16	12.1	9.2	7.8	6.9	73.3	16.3	—	0.52
Orlik	13.2	8 min	37.3	10.3	20.1	17.5	17	3.3	135.5	13	34	0.51
Aika	13.5	3 min 30 sec	20.3	15.2	6	4.7	2.7	3.8	52.7	9.6	20	0.57

*The proteolytic activity was determined by Mett and Anson's method, as modified by A. M. Ugolev [4]. The juice was diluted 1 : 6 with 0.25% hydrochloric acid. The photoelectric colorimeter readings were converted into Hunt's pepsin units by B. I. Sabsai's method [2].

the main stomach and pouch is sutured to the exposed submucosa (see figure, 3 and 4B). The remainder of the submucosa which is not covered by serosa is peritonized with omentum. Several additional interrupted sero-serosal sutures are inserted, completely covering the defect (see figure, 5). The other steps of the operation are carried out as described by A. M. Ugolev.

A fistula tube is introduced into the gastric pouch by V. E. Robinson's modification [1]. By this means the juice from the gastric pouch can take part in digestion when no experiment is in progress, and during an experiment the juice can be directed towards the main part of the stomach at the will of the experimenter. The use of a fistula tube prevents overfilling of the isolated pouch with juice when no experiment is in progress. The secretory activity of the isolated gastric pouch, when formed as described above, is illustrated in the table. It should be noted that the volume of the isolated gastric pouch does not exceed one tenth of the volume of the main part of the stomach.

SUMMARY

Changes in the operative technique of formation of an isolated stomach pouch in A. M. Ugolev's modification ensure a reliable isolation of the cavities of the stomach pouch and stomach proper. The paper presents data, characterizing the secretion of the isolated stomach pouch formed by A. M. Ugolev's method with the author's modifications.

LITERATURE CITED

1. V. E. Robinson, Fiziol. zh. SSSR, 5, 626 (1953).
2. B. I. Sabsai, Byull. éksper. biol., 9, 117 (1961).
3. A. M. Ugolev, Byull. éksper. biol., 7, 108 (1957).
4. A. M. Ugolev, Adaptation of the Digestive Glands to the Quality of the Food. Doctorate dissertation (Moscow, 1958).

All abbreviations of periodicals in the above bibliography are letter-by-letter transliterations of the abbreviations as given in the original Russian journal. *Some or all of this periodical literature may well be available in English translation.* A complete list of the cover-to-cover English translations appears at the back of this issue.
