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Formation of a gastrostomy at treatment of patients with extended cicatrical strictures of a gullet

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ABSTRACT

The method of treatment of patients with extended cicatrical strictures of a gullet by an establishment of gastrostomy is offered in this article. 87 patients who were on hospitalization in GI "V. T. Zaytsev IGES of NAMS of Ukraine" were investigated. Patients were divided into two groups: the main (43 patients) and control group (44 patients). The contact gastrostomy was created in Institute clinic for patients of the main group. Other gastrostomy was created by the standard technique according to Kader for patients of the control group. Disadvantages of Kader`s gastrostomy is eruption of purse-string suture, loss of the gastrostomy tubes, impossibility to use a esophagogastroplasty. And also, such operations are longer, difficult and traumatic.

In this regard, two-stage tactics of the treatment of such patients is developed and introduced in our clinic. At the first stage the contact gastrostomy is applied to the patient (the patent of Ukraine № 92441 of August 11, 2014). At the second stage the plasticity of the gullet is performed using the interponat from stomach walls prepared at the first stage.

Advantages of the developed type of a gastrostomy are: decrease of a trauma and deformation of a stomach, minimization of disturbance of a circulation, considerably reduce a operation time and a disease severity. Thus, the developed way of a contact gastrostomy promotes improvement of treatment results and also the state of health of the operated patients.

Keywords: *cicatricial strictures; gastrostomy; esophagogastroplasty; gullet.*

INTRODUCTION

In recent years, there is a considerably growing number of diseases of a gullet which cause a dysphagia. The most frequent surgical pathology of a gullet remains cicatricial strictures. Chemical burns are the main reason for their origin. Study data have been shown that more 70 % good-quality strictures of the gullet, as a rule, are postburn. About 87 % patients with extended postburn cicatricial strictures of a gullet are individuals of working- and young ages and 55 % patients get a chemical burn casually [1].

Extended postburn cicatricial strictures a gullet lead to the impassability of a gullet with development of alimentary insufficiency, exhaustion and fading of compensatory mechanisms of an organism. There is an open question about a restoration of a passage of food by a natural way. Exhaustion and fading of compensatory mechanisms of an organism at such patients do not allow to make reconstructive operation due to a big risk of emergence intra-and postoperative complications. Therefore, the two-stage approach is developed and introduced in surgical treatment of patients with extended postburn cicatricial strictures of a gullet in our clinic. This method is based on restoration of the trophological status of the patient at a preparatory stage [2-5].

The studied patients were affected by two-stage surgical treatment. Restoration of the trophological status by a way of nutritional support both parenterally, and an enterally way through created gastrosty was the purpose of the first stage of the surgical treatment. The second stage appears after restoration of deficiency of body weight and correction of the trophological status of patients. Reconstructive and regenerative operations with closing the gastrostomy and restoration of a passage of food by a natural way were executed at the second stage.

MATERIALS AND METHODS

Studying of results of the first stage of surgical treatment of extended postburn cicatricial strictures of a gullet and analysis of the received data were made. All patients were on hospitalization in government institution “V. T. Zaytsev Institute of General and Emergency Surgery of NAMS of Ukraine” in 2000-2015 in the office of diseases of a gullet and a gastroenteric path. Patients with a heavy and extremely serious general condition and existence of the expressed cachexia due to the need of compensation of the nutritive status and impossibility of carrying out reconstructive surgical intervention were exposed to this research at this stage. All patients were investigated according to the standard scheme. Classical statistical methods of processing of results were used at performance of work which has retrospective and prospective characters [6,7].

RESULTS

The experience of treatment of 87 patients with extended postburn cicatricial strictures of a gullet by imposing the gastrostomy is analysed. Patients were on hospitalization in GI “V. T. Zaytsev IGES of NAMS of Ukraine” during the period from 2000 to 2015 years at the age of 25 – 50 years. They also were divided into two groups: the main (43 patients) and control groups (44 patients).

The contact gastrostomy was created in Institute clinic for patients of the main group. Other gastrostomy was created by the standard technique according to Kader for patients of the control group [8-10] An average age of patients was 38,6 ± 5,4 years. The age distribution of patients was made according to the classification of the World Health Organization (1980): 18-35 years – individuals of young age (19,54 %); 36-59 years' ones of middle age (80,46 %); 60-75 years – ones of old age (0 %); 76-89 years – ones of senile age (0 %). The number of men was 17 (74,71 %), the number of women was 5 (25,29 %).

DISCUSSION

The main complaints of hospitalized patients were a dysphagia (100 %), loss of body weight (100 %), a hyper salivation (45 patients – 51,72 %). The no compensated degree of impassability (100 %) was noted at all patients of both groups.

Patients mainly arrived in Institute clinic during the late postburn period of formation of the cicatricial strictures (80 patients – 92 %) according to the classification the postburn strictures which is developed in Institute clinic. In the early postburn period (7 patients – 8 %) the patients with the expressed dysphagia were made the imposing gastrostomy according to Kader for the purpose of ensuring the nutritive support, the enterally food and exception the gullet from the food passage. The general condition of all patients was estimated as serious (45 patients – 51,72 %) or extremely serious degree (42 patients – 48,27 %) at the initial moment. Based on the data about the main clinic-laboratory indicators and the methods of the tool researches mentioned above which were received in the preoperative period, all patients were sub compensated and decompensated [11].

The serious degree of nutrient deficiency was estimated in 25 patients (28,7 %) and the extremely serious degree – in 55 patients (63,3 %) of 80 patients of both groups. The loss of body weight was not noted in 7 (8 %) patients of control group which arrived during the early postburn period. The degree of nutrient deficiency was estimated on expressiveness of the loss of body weight from initial one, in percentage (the body weight prior to trauma – body weight at the moment of survey/100 %). The serious degree of nutrient deficiency corresponds 10-19 % of the loss of body weight, and the extremely serious degree of nutrient deficiency corresponds more than 20 % of the loss of body weight. The expressed dysphagy and the weakened condition of patients with extended postburn cicatricial strictures of a gullet demands the performance of the gastrostomy in the shortest terms for achievement of normalization of the trofological status, a restriction of an affect area and an enteral nutrition that was reached in all patients of both groups. The techniques mentioned above did not demand the operative measure expansion and were carried out by minilaparotomy at all cases [12].

The gastrostomy according to Kader was created for all patients of the control group. The eruption of purse-string suture was noted in 11 (25 %) patients during carrying out the analysis of operations. It was shown in the form of the dribble of the gastric contents and increase the diameter of a gastrostomy opening with maceration of skin around it. Consequently, the care process was aggravated and frequent bandaging (sometimes to 5 times a day) was demanded. The gastrostomy tubes were lost by these patients. The additional discomfort for the patient and limit his stay in society (the existence of an unpleasant smell, etc.) was happened.

Further, the created gastrostomy according to Kader excludes the use of the stomach at the expense of deformation of its wall as interponat for plasticity of a gullet in patients at the second stage of the surgical treatment. Therefore, the esophagogastroplasty as the anatomically caused method cannot be used at the reconstructive (second) stage. The site of a small or large intestine is considered as a plastic material for replacement of the struck site of a gullet. Such reconstructive operations are longer and technically more difficult and traumatic due to the need of carrying out the additional stage – preparation of the interponat. It is the most powerful drawback of a gastrostomy according to Kader.

In this regard, two-stage tactics of the treatment of such patients is developed and introduced in our clinic. At the first stage the contact gastrostomy is applied to the patient (the patent of Ukraine № 92441 of August 11, 2014). At the second stage the plasticity of the gullet is performed using the interponat from stomach walls which was prepared at the first stage.

The feature of the first stage of the offered treatment is formation of the contact gastrostomy from stomach wall and its removal on the forward abdominal wall, and also the introduction of the tube for feeding into created gastrostomy. A distinctive feature of this way is partial processing of small curvature of a stomach with a clipping of the left gastric artery (Figure 1).

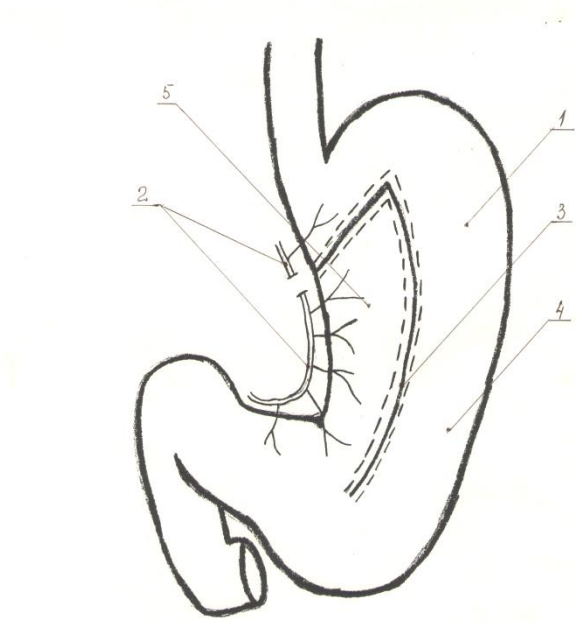

Figure-1: The design of formation gastrostomy with a clipping of the left gastric artery: 1 – stomach; 2 – a clipped left gastric artery; 3 – projection of a section of all stomach layers; 4 – projection of "stalk" of a stomach; 5 – projection of a gastrostomy tube.

Create the gastrosty in the form of an isoperistaltic tube which is equidistant small to curvature of a stomach. Thus, the length of the isoperistaltic tube corresponds to the distance to a forward abdominal wall. After that, project an exit point to a forward abdominal wall and remove the gastrostomy taking into account the diameter of an opening and the length of a moved isoperistaltic tube (Figure 2).

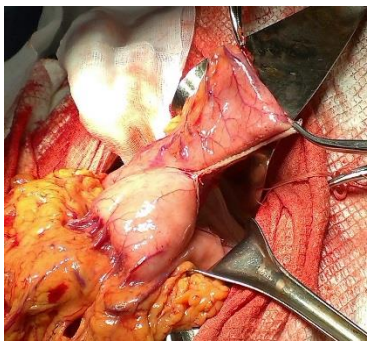

Figure-2: Intraoperative photo: the formation of a gastrostomy tube

Thus, the distalny end of the isoperistaltic tube is attached by the noose sutures to a parietal peritoneum, back and forward leaves of a vagina of a direct muscle of a stomach and skin; and a tube for feeding is implanted into the created gastrostomy (Figure 3, 4).

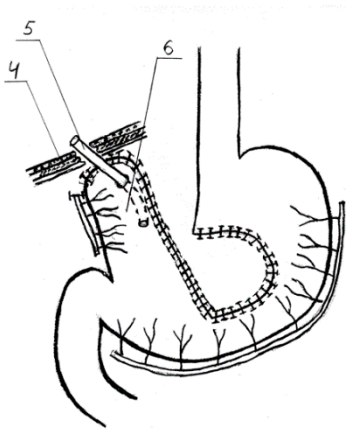

Figure-3: Final form of the gastrostomy: 4 – abdominal wall; 5 – gastrostomy tube; 6 – created gastrostomy.

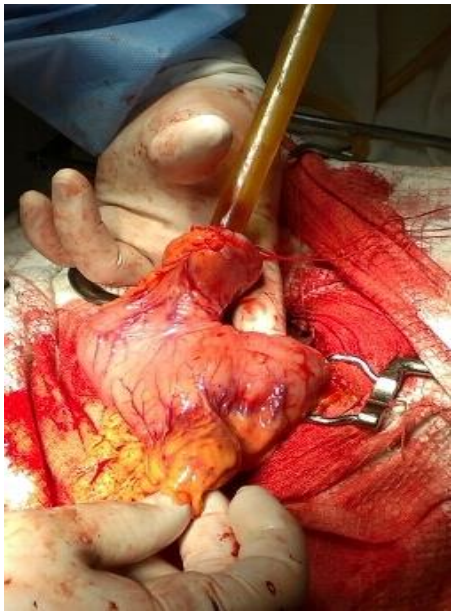

Figure-4: Intraoperative photo: final form of the gastrostomy

This type of a gastrostomy is carried out considering need further of performance of a recovery stage of an esophagoplasty using the prepared stalk from big curvature of a stomach. The advantages of the developed type of a gastrostomy are: reduction of a trauma and stomach deformation at formation an isoperistaltic tube and "stalk" of a stomach; and also, minimization of violation of the blood circulation. Further, it allows to prevent an ishemization of stomach walls, provide a possibility using of created "stalk" of a stomach as esophagoplasty at next reconstruction of the damaged zone of a gullet. This type of a gastrostomy provides a possibility of an individual approach to each patient considering his anatomic features. The formation of "stalk" of a stomach and gastrostomy isoperistaltic tube on small curvature occurs at the same time at this type of a contact gastrostomy. The

"stalk" of a stomach functions isoperistaltically at its moving to a gullet position. Thus, this technique of a contact gastrostomy provides the preparation of interponat at this (first) stage without increasing of spent time for operation and complication of operation severity. The interponat have been already prepared at a stage of performance of the reconstructive operation. Therefore, the duration and operation severity is considerably reduced. The cutting of seams and dribble of gastrostomy were not noted in all patients of the main group [13,14].

CONCLUSION

Thus, the technique of contact gastrostomy is developed and introduced in Institute clinic at two-stage method of surgical treatment of patients with extended postburn cicatricial strictures of a gullet. It promotes the improvement of results of treatment and quality of life of the operated patients.

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