

Case of Successful Video Laparoscopic Removal of Insulinoma Pancreas

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Abstract

As it is known, insulinoma is the formation of the pancreas characterized as a functioning endocrine tumor. This formation is the most frequent functioning pancreatic tumor, and its frequency is 1 - 2 cases per 1 million population. The clinical manifestations of insulinoma are due to the overproduction of insulin and/or insulin-like factors. For the first time, the symptom complex of hyperinsulinism, simultaneously and independently of each other, was described by Harris and V.A. Opperl in 1924 [3,5-7].

Keywords: *Insulinoma; Pancreas; Endocrine Tumor*

Introduction

According to the data available in the literature, the incidence of this pathology among people of different sexes is different, mainly it affects the population of the most working age. Approximately 90% of insulin is benign and only 5 - 10% is malignant. The most frequent localization of the tumor is the parenchyma of the body and tail of the pancreas, the sizes usually do not exceed 2 cm. Multiple extrapancreatic lesions are extremely rare [1,2].

Insulinomas can produce a whole range of hormones such as serotonin, gastrin, glucagon, somatostatin, corticotropin, etc., which, in turn, reflecting on the clinical course of the disease, makes their diagnosis difficult. Very often, patients with insulinoma are observed by various specialists, and the final diagnosis becomes obvious only with the appearance of metastatic foci, when radical surgical treatment is no longer possible. On the other hand, actively functioning neuroendocrine tumors can have very small sizes, which significantly reduces the likelihood of their detection, even with targeted search [3,4].

The method of topical diagnosis and screening is ultrasound of the abdominal cavity, which allows you to primarily detect the presence of a formation in the pancreas. Of the modern methods of radiation diagnosis, CT and MRI are the most preferred methods for the primary diagnosis of most endocrine tumors. The sensitivity of these methods, according to various authors, varies from 50 to 80%.

On computed tomograms with contrast, in typical situations, in the pancreatic parenchyma, a hypervascular formation with clear contours is detected. The best image is obtained in the early phase of contrast enhancement. Malignant insulinomas are usually detected in combination with metastatic lesions of the regional lymph nodes and liver [4,5,10].

In MRI in insulin diagnostics on T1-weighted images, they are hypo-intensive, on T2-images are hyperintensive. Insulinomas intensively accumulate contrast medium and are visible in the images as hypervascular formations.

The treatment of choice for insulin treatment is surgery. The first successful operation to remove an insulin-producing pancreatic tumor was performed by Graham in 1929. Today, with tumors of small size, it is most often enucleated. Pancreatic resection is indicated when the tumor contacts the pancreatic duct, the main vessels and the malignant nature of the neoplasm. Adequate topical diagnosis of education allows not only to determine whether it is possible to perform the intervention laparoscopically, but also to reduce the risk of developing various complications during surgical intervention [8,9,11].

Objective of the Study

To show the possibility of laparoscopy in case of endocrine pancreatic tumors using a specific example.

Case Report and Discussion

Description of the clinical example: Patient A., born in 1975. IS No. 181, was hospitalized in the clinic complaining of paroxysms of severe general weakness with loss of consciousness, a sharp feeling of hunger, which occurs mainly in the morning and 4 - 5 hours after the last meal. The patient considers himself from 2014, since she began to note the above complaints.

She was repeatedly hospitalized in various neurological departments with a diagnosis of idiopathic epilepsy. She received conservative therapy, without the desired effect, and was even transferred to a diet with a lot of easily digestible carbohydrates.

During the next paroxysm, the ambulance team was delivered to the State Medical Center No. 2, where a decrease in blood sugar level to 2.3 mmol/l was established, in connection with which organic hyperinsulinism and the patient were suspected for further examination and possible surgical treatment, was sent to the Institute of Gastroenterology of the Ministry of Health and Social Sciences of the RT.

The general condition of the patient upon admission is relatively satisfactory. Proper physique, somewhat elevated nutrition. Normostenik. The skin is clean, flesh-colored, slight perspiration. Peripheral lymph nodes are not enlarged. The body temperature is normal. Hemodynamic parameters within the normal range A/D - 110/70 mm Hg Pulse 86 beats per minute, satisfactory filling. By organs and systems without pathological changes. The neurological status revealed a minor insufficiency of the VII and XII pairs of cranial nerves in the central type, asymmetry of tendon and periosteal, as well as unevenness of the abdominal reflexes.

Biochemical analysis of blood: Reducing the level of glycemia to 3.6 mmol/L, blood insulin - 10.3 mced/ml (normal 2.5 - 7.1 mced/ml); C-peptide - 3.8 ng/ml (norm 0.7 - 1.9 ng/ml). The daily glycemc profile showed fluctuations in blood glucose from 2.45 mmol/L to 4.8 mmol/L.

Ultrasound with duplex scanning of the vessels of the abdominal cavity and targeted examination of the pancreas - it is impossible to exclude the presence of focal avascular masses, 3.2 x 3.5 cm in size, at the border of the body and tail of the pancreas, diffuse changes in the liver parenchyma. Increase in speed indicators on the general and own hepatic arteries.

MSCT with intravenous bolus contrast enhancement - The pancreas is diffusely changed, the density in the head region is moderately reduced to + 26 + 32 U. Dimensions: head-17.7 mm, body-19.1 mm, tail-19.4 mm. In the body area closer to the tail, along its anterior-lateral edge, volumetric formation is determined, of an irregularly-oval shape, heterogeneous structure, size 3.2 × 3.0 × 2.6 cm, with density indices of + 28 + 33 U, in places up to + 46 + 54 units N. The formation sprouts the body along the front contour, intact with respect to the duct and adjacent structures. Wirsung duct is not expanded. Parapancreatic fiber is somewhat denser and heavier. Conclusion MSCT: CT picture of the volumetric body formation of the pancreas.

FGDS - a picture of superficial gastroduodenitis.

Rg of the organs of the chest cavity - pathological shadow formations were not detected.

Based on the examinations, the clinical diagnosis was established: Functioning endocrine tumor of the pancreas body (insulinoma), T1N0M0, organic hyperinsulinism.

During the consultation, taking into account the topic, the size of the formation and the intactness of the Wirsung duct, a decision was made to perform diagnostic laparoscopy in order to clarify the final diagnosis and possible enucleation of the formation.

02/05/2016 after preoperative preparation, the patient was taken for surgery. Under endotracheal anesthesia, abdominocentesis was applied at the upper umbilical point. CO₂ insufflation up to 12 mmHg, 2 working trocars installed. Examination of the abdominal cavity revealed no pathological changes. The gland bag is opened from the antrum to the beginning of the short arteries. The stomach is taken on the holders. The pancreas is well accessible for examination, lobed parenchyma. At the border of the body and tail of the gland, a tumor was found, measuring 3.5x4.0 cm, not going beyond the capsule and without signs of invasive growth. Education is phased out from the surrounding tissues to the legs. After clipping and crossing the feeding leg, enucleation of the volumetric formation with diathermocoagulation of small blood vessels was performed. Drainage of the bed of education, restoration of the omental bursa, suturing of wounds of the abdominal wall. The duration of the operation was 1 hour 40 minutes. The volume of intraoperative blood loss is not more than 150 ml.

Macrodrug: Volumetric formation, 3.5 x 4.0 cm in size, irregularly oval in shape, heterogeneous structure, whitish-gray color. On the section - in the center of the formation, a section of gray-brown color (Figure 1 and 2).

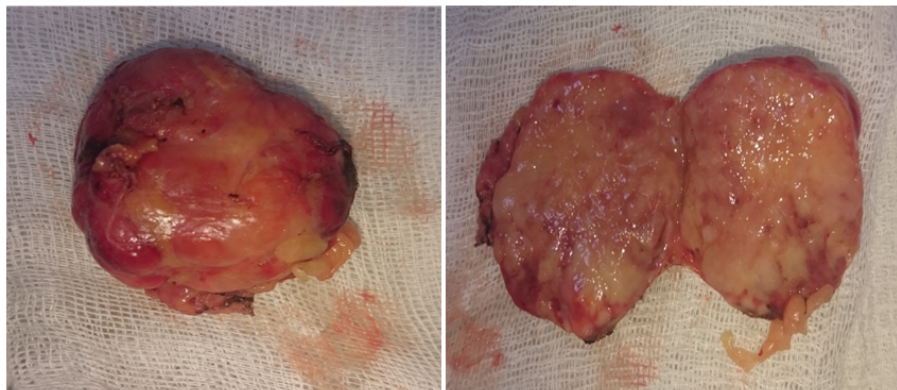


Figure 1 and 2: Insulinoma after enucleation.

Histological examination - a tumor of low degree of malignancy (G 1), the profile of the markers corresponds to insulinoma.

In the postoperative period, fistula development was noted after drainage was removed, from which pancreatic juice stood out. This fistula closed independently on the 8th day of the postoperative period. No other complications were identified. The patient was discharged on the 14th day of the postoperative period. I have not again addressed the above complaints.

Conclusion

Thus, despite the relative obviousness of the clinical picture and the possibility of biochemical confirmation of the diagnosis, topical diagnosis with insulin presents certain diagnostic difficulties. Using a wide range of modern diagnostic methods makes it possible to establish a diagnosis in a timely manner and to choose an adequate surgical tactics for the treatment of endocrine pancreatic tumors.

Laparoscopic enucleation, being a high-tech intervention, is an effective and minimally invasive method of treatment with insulin and can be recommended for wider implementation in clinical practice.

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