

CLINICAL CASE OF SURGICAL TREATMENT OF THROMBOSED ANEURYSM OF LEFT VENTRICLE WITH CONCOMITANT GIANT RETROSTERNAL GOITER

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Demonstration of clinical case of CABG with resection of left ventricular aneurysm of left ventricle with right hemithyroidectomy of concomitant giant retrosternal goiter. Simultaneous operation allows to perform a couple of surgeries under one anesthesia that reduces the risk of complications and improves process of recovery.

Key words: CABG, resection of aneurysm of left ventricle, thyroidectomy

Every year in Ukraine increased the number of coronary artery bypass operations (CABG), and taking into account the prevalence of thyroid diseases after the Chernobyl accident, we often observe a combination of coronary artery disease (CAD) and neoplasm of the thyroid gland. We performed a clinical case of possibility of simultaneous CABG operation with giant retrosternal goiter.

Patient Z., 56 years old, was admitted in the National Institute of Cardiovascular Surgery in 2 months after transmural myocardial infarction (MI). He didn't have any complaints, except the decreased in physical activity during last 2 months. On an ECG we found signs of chronic coronary insufficiency, postinfarction scar of anteroseptal and apical region of the left ventricle (LV) with the transition to the posterior wall, LV aneurysm with thrombus (Fig. 1).

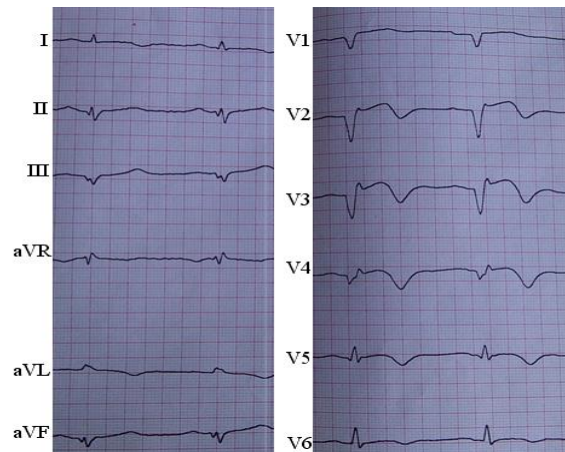


Fig.1: ECG of patient Z. before operation.

Thrombosed aneurysm of anteroseptal and apical region of LV with reduced LV contractile ability (EF 37%) was confirmed by ECHO study. During coronaroveniculography revealed multivessel CAD with postinfarction LV aneurysm (Fig. 2).



Fig.2. Angiography of patient Z. before operation. 1. LAD occlusion 2. Occlusion of RCA. 3. Aneurysm of LV.

The thyroid disease was diagnosed for patient 25 years ago by ultrasound. However, due to the absence of clinical symptoms, he didn't observed by endocrinologist. Patient's weight is 72 kg with height 177 cm. Mild exophthalmoses was noticed. In the study of the function of thyroid hormones were determined by signs of a slight hyperthyroidism, which didn't require use of thyreostatics (TSH 0.182 mkME/ ml (N - 0,27-4,2 mkME/ml) , T4 - 24.76 pmol /L (N - 12,0 -22.0 pmol / L) T3 - 5,06 (N - 3,1-6,8 pmol / l)) . Giant right thoracic goiter was verified by chest X-ray and CT scan and thyroscintigraphy (Fig.3).

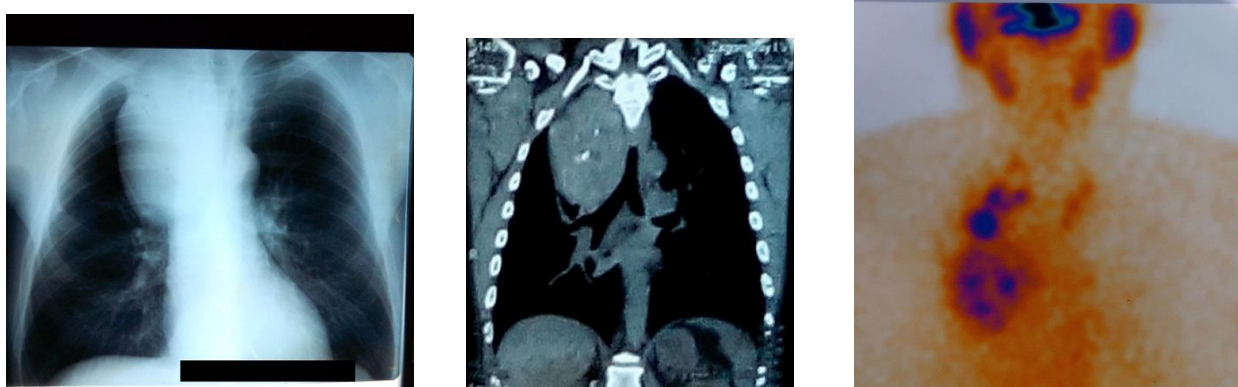


Fig.3. Giant right thoracic goiter by chest X-ray, CT and thyroscintigraphy datas.

Taking to the account the huge size of the goiter we decided to perform a two-step operation. During the first stage prof. M.Bagirov performed right hemithyroidectomy: by expanded sternotomy access, the surface of the right lobe of the thyroid gland was opened, the size 8x7x6sm, with cystic changes and varicose vessels (up to 8 mm). Surface of the gland was opened, ligated and crossed four main and additional vessels. Intrathoracic part of the goiter in the posterior mediastinum reached the roots of the lung, mediastinal pleura was dissected, ligated vessels. Goiter is separated from the mediastinum, and then first was removed the cervical part, then the rest of the giant part, vessels ligated and the tumor was removed. Hemostasis, drainage of right pleural cavity (Fig. 4).

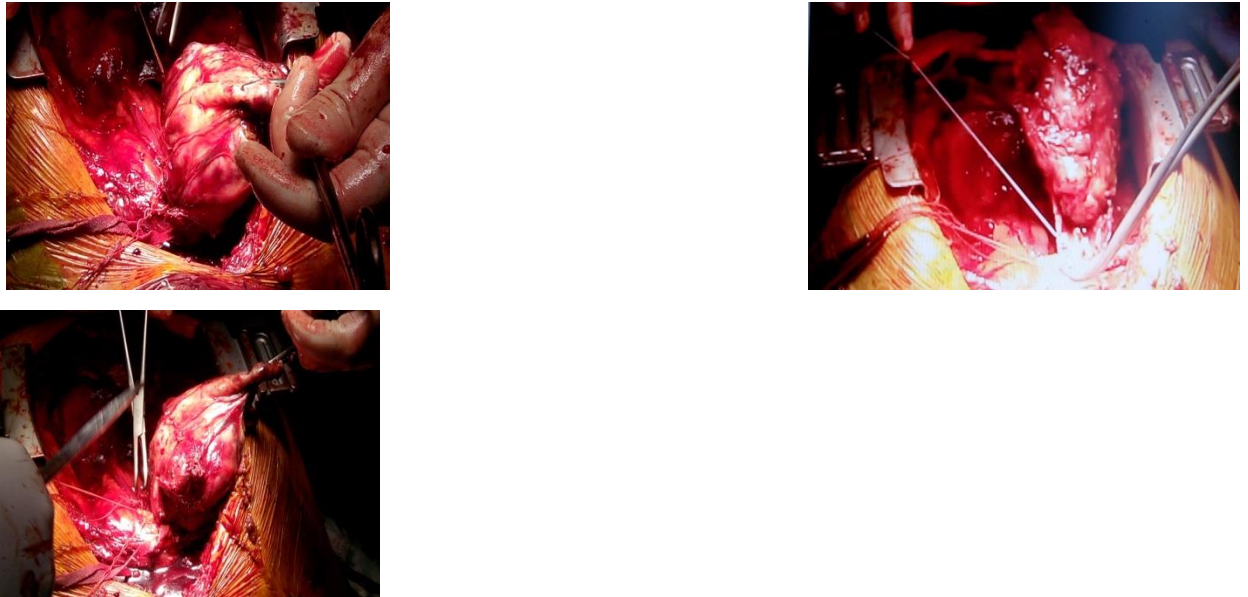


Fig.4. Right hemithyroidectomy.

Removed goiter was sent on cito-histological study in the department of pathology to exclude a malignant process. Macroscopically: red encapsulated tumor formation 9,5x8,5x6 cm. On a section noticed numerous nodes and cavities formed by gelatinous yellow-red liquid. The wall cavity was is very dense, sometimes cartilaginous consistency. Neck part of removed goiter was presented by connective and fatty tissue 9x6x2cm. Microscopically: large follicular thyroid adenoma with foci of cell proliferation of the glandular epithelium, with papillary formation of branched structures. The cellular elements in capsule weren't defined. There weren't signs of malignancy (Fig. 5)

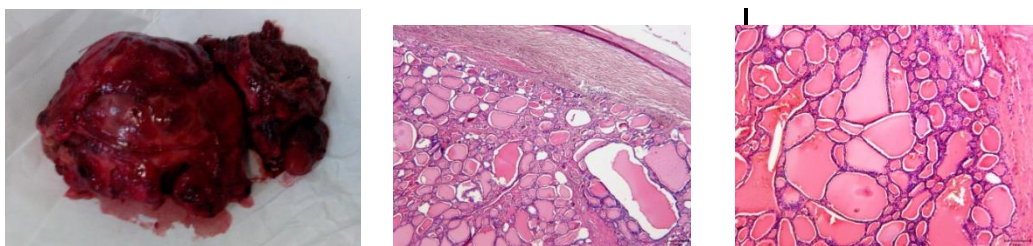


Fig.5. Removed right goiter. Histological examination, hematoxylin-eosin: large follicular thyroid adenoma.

Intraoperatively we measured thyroid hormones before thyroidectomy (11.40) and after (12.45), which resulted of hyperthyroidism (Fig. 6).

№	Parameter	Results		Units	Norm
		11 ⁴⁰	12 ⁴⁵		
1	TSH	< 0,005	0,005	μU/ml	0.270-4.20 μU/ml
2	FT3	8,7	8,3	pmol/l	3.1 – 6.8 pmol/l
3	FT4	32,8	34,0	pmol/l	12.0 – 22.0 pmol/l

Fig.6. Intraoperative analysis of thyroid function.

The second stage was performed by prof. A.Rudenko and consisted in CABG and with resection of the LV aneurysm. Pericardium was opened, connected and started heart-lung machine, cardioplegy with “Custadiol” in the aortic root. First LAD was grafted to aorta by autovein, and then performed 2 grafts to RCA. Next, we the apical aneurysm of LV was opened by 12 cm cut of the anterior surface of the LV and clots were removed. Resection and plasty of the LV. Prevention of air embolism, disconnection of heart-lung machine. Hemostasis, suture on wound (Fig. 7).

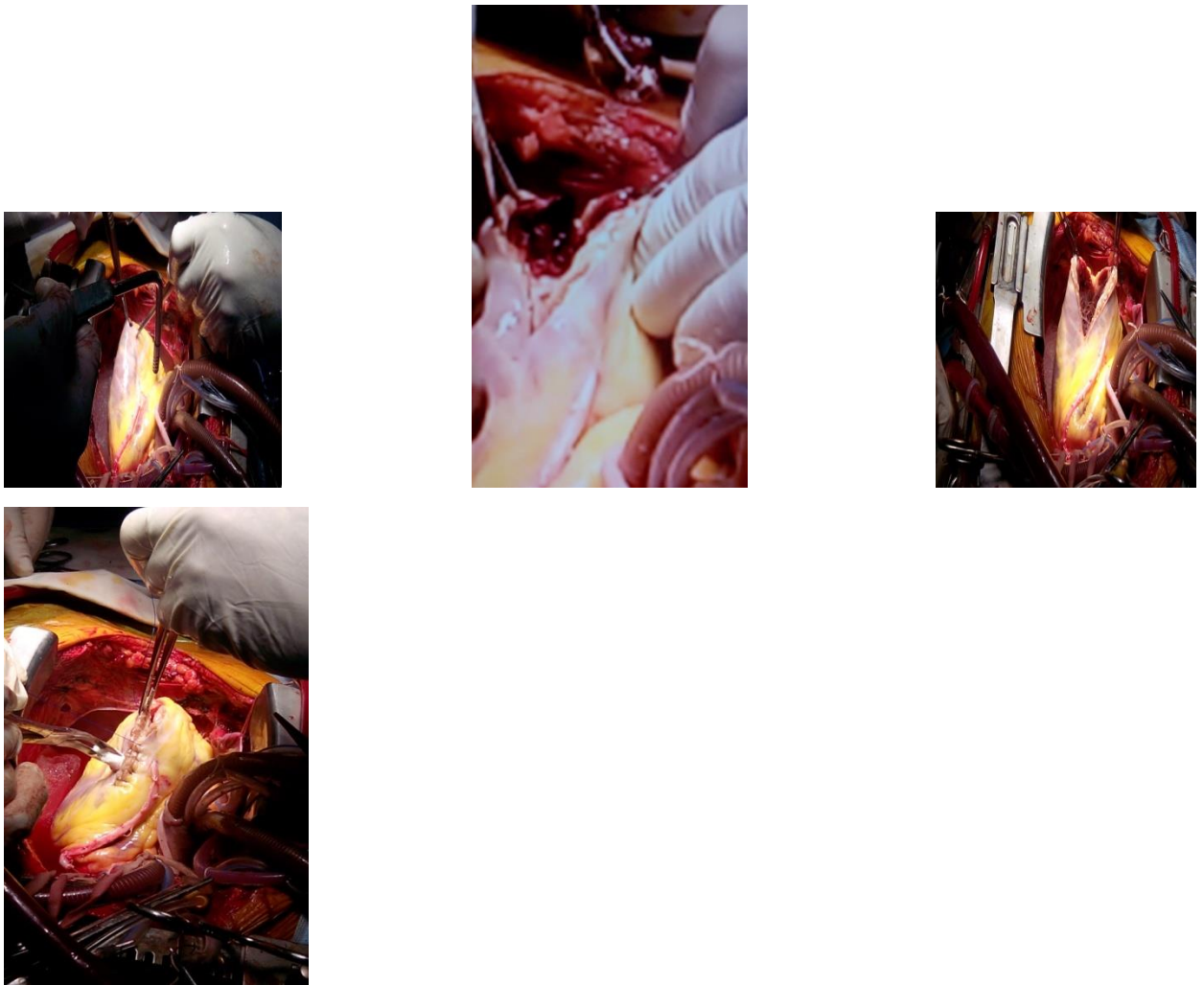


Fig.7. Resection of aneurysm of LV with thrombectomy, LV plasty.

Duration of operation was 7 hours, duration of on-pump part 148 minutes.

Paroxysms of atrial fibrillation and fluttering (fig.8) were noticed in postoperative period, they were stopped by amiodaroni.

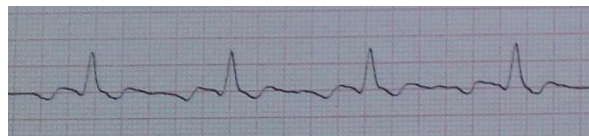


Fig.8. Paroxysm of atrial flutter on the 5th day after operation.

It was slight decrease of blood calcium (up to 0.83 mmol /l), which didn't manifested clinically and was corrected by parenteral administration of calcium preparations.

Right pleural drainage was removed on the third day after operation; the patient was placed from the ICU to the department. Chest X-ray picture was improved (Fig. 9).



Fig. 9. Chest X-ray of the patient Z. on the 5th day after operation.

Repeated paroxysms of atrial fibrillation were stopped by amiodarone. By adding beta-blockers in the tolerable dose we improved hemodynamic parameters. The patient was discharged from the institute on the 8th day after operation in good condition, with sinus rhythm and positive dynamics of ECG (Figure 10).

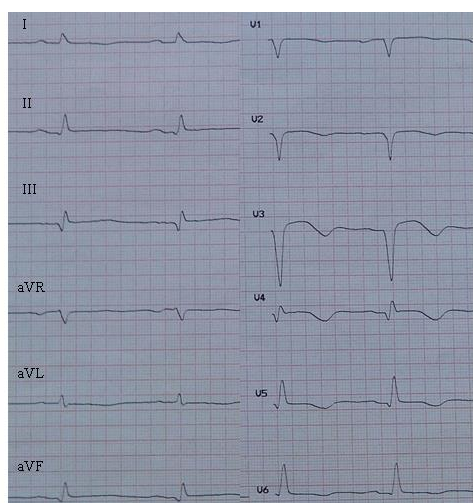


Fig.10. ECG of patient Z. on discharge.

During ECHO-study we noted decrease of end-diastolic volume of LV (from 314ml to 239 ml). The patient was started further rehabilitation, under the supervision of a cardiologist and endocrinologist.

Thus, we presented a clinical case, which demonstrates ability to perform surgical correction of thrombosed LV aneurism with concomitant giant retrosternal goiter during one anesthesia.

КЛІНІЧНИЙ ВИПАДОК ХІРУРГІЧНОГО ЛІКУВАННЯ ТРОМБОВАНОЇ АНЕВРИЗМИ ЛІВОГО ШЛУНОЧКА ПРИ СУПУТНЬОМУ ГІГАНТСЬКОМУ ЗАГРУДИННОМУ ЗОБІ

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Представлено клінічний випадок операції коронарного шунтування, резекції аневризми лівого шлуночка з гемитиреоїдектомією справа з приводу супутнього гігантського за грудинного зоба. Симультанна операція дозволяє провести декілька оперативних втручань під однією анестезією, що знижує ризик розвитку ускладнень та прискорює процес реконвалесценції.

Ключові слова: *коронарне шунтування, резекція аневризми лівого шлуночка, тиреоїдектомія.*

КЛИНИЧЕСКИЙ СЛУЧАЙ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ТРОМБИРОВАННОЙ АНЕВРИЗМЫ ЛЕВОГО ЖЕЛУДОЧКА ПРИ СОПУТСТВУЮЩЕМ ГИГАНТСКОМ ЗАГРУДИННОМ ЗОБЕ

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Представлен клинический случай операции коронарного шунтирования, резекции аневризмы левого желудочка с гемитиреоидэктомией справа по поводу сопутствующего гигантского за грудинного зоба. Симультанная операция позволяет провести несколько оперативных вмешательств под одной анестезией, что снижает риск развития осложнений и ускоряет процесс реконвалесценции.

Ключевые слова: *коронарное шунтирование, резекция аневризм левого желудочка, тиреоидэктомия.*

