"OVIDIUS" UNIVERSITY, CONSTANȚA
Faculty of Medicine

HEPATIC METASTASES AND THEIR TREATMENT IN ABDOMINAL ORGAN'S SURGERY

- SUMMARY-

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3. MATERIAL AND METHODS

Our study is a retrospective statistical analysis performed on a total of 243 patients hospitalized in Surgery II Constanta County Emergency Hospital in the period 01.01.2007 - 31.12.2011 diagnosed with colorectal cancer. Were studied both observation sheets, surgical protocols and histo-potological newsletters. As compared to the literature, that the incidence of colorectal origin liver metastases is 2/3-3/4 of the total number of liver metastases (2, 5, 6, 7), in our study of 243 patients, 71 had liver metastases. Clinical and statistical analysis of data obtained was performed according to the following criteria: sex, age, origin, registered metastases associated metastases, type of surgery.

Double hepatic circulation causes liver blood flow is very high and is surpassed only visceral hemodynamics in pulmonary circulation. Hepatic metastasis depends on age, sex, primary tumor location, histological type and duration of its evolution. (3, 7)

The incidence of colorectal origin liver metastases is estimated to be 2/3-3/4 of the total number of metastases in the liver. 10- 30% are synchronous with primary surgery, but 60% of metastases can not be predicted in preoperative studies. It was also found that 1/4 of patients with colorectal cancer liver metastases are technically resectable during initial operation. (2, 4, 6).

Liver metastases are the most common liver tumors. Treatment of primary and metastatic liver tumors depends both intra- and extrahepatic extension of the disease, and liver functional reserve. Therapeutical options include surgical procedures and / or non-surgical. (1, 4, 7) applied to the 71 patients. I was interested in many aspects of these cases.

If metastases were known preoperatory, because colorectal cancers operated in occlusion, in wich casese the cancer and metastases are found on the operating table, require a particular therapeutic approach.

If liver metastases were solved in the same operative session or successively, by a new intervention.

Whether another method of metastases destruction was applied

If liver metastases were resolved in the same operative session or successively, by a new intervention.

5. RETROSPECTIVE STUDY OF HEPATIC SECONDARY TUMORS IN COLORECTAL CANCERS

Clinical and statistical analysis of data obtained was performed according to the following criteria:

- Distribution on years of study
- Sex
- Age
- The area of origin
- Headquarters metastasis
- Associated side Determinations
- Type of surgery

For each of these criteria we realized one table with pooled data of all patients and a chart that emerged from the findings presented below.

TABLE No. 1 - PATIENTS DISTRIBUTION WITH LIVER METASTASES, PER YEARS OF STUDY

Studied years	No of pacients	Percent (%)
2007	9	12.68
2008	11	15.49
2009	19	26.76
2010	11	15.49
2011	21	29.58
Total	71	

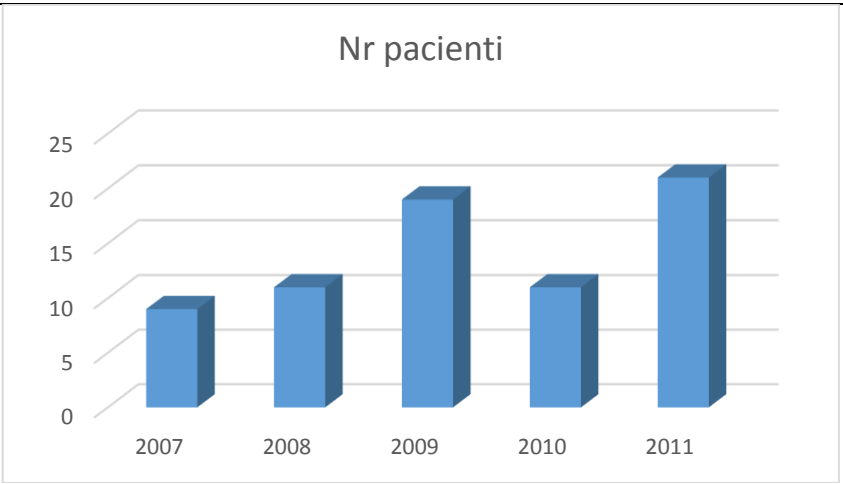


CHART No. I -

TABLE No. 2 - ALLOCATION OF CASES BY SEX

Sex	Number of cases	Percent
Men	52	73%
Women	19	27%
Total	**71**	**100%**

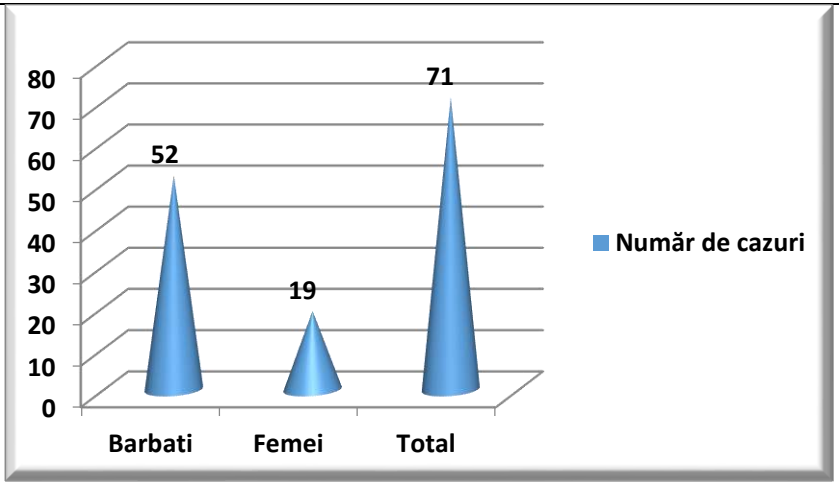


CHART No. II - ALLOCATION OF CASES BY SEX

The difference between the sexes is not very high damage. Men are most commonly affected. The data obtained indicate a frequency higher liver metastases in men with a percentage of 73% compared to 27% in women.

TABLE No. 3 - STUDY IN PATIENTS WITH LIVER METASTASES

Age	Number of cases	Percent
1-30 years	2	0,29%
31-60 years	21	29,57%
61-90 years	48	67,6%
TOTAL	**71**	**100%**

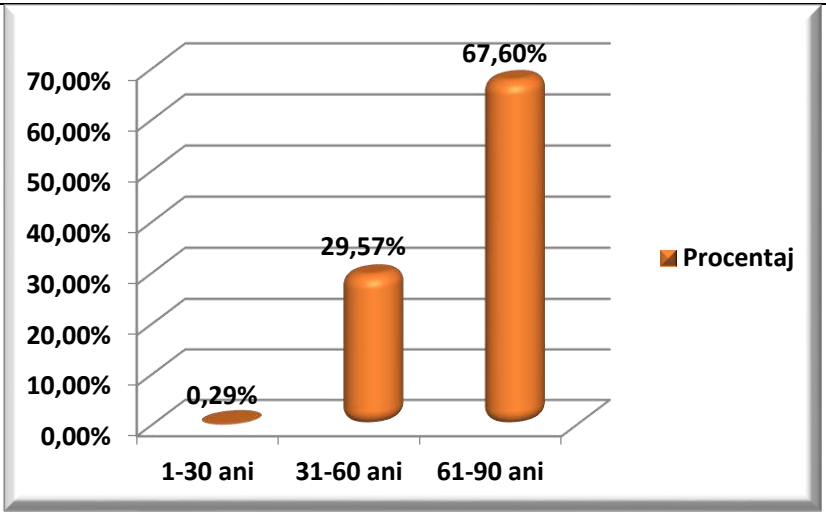


CHART No. III - DISTRIBUTION OF CASES BY AGE

It appears from the graph that the highest frequency of colorectal neoplasms with liver secodary determinations meets from 61 to 90 years old. Minimum age is 22 years and maximum 88 years. The data indicate an unequal distribution of cases of colorectal neoplasms with secondary liver determinations by age, the percentage high (67.6%) being in the age group over 60 years old.

TABLE No. 4 - PATIENTS WITH LIVER METASTASES BY AREA OF ORIGIN

AREA OF ORIGIN	Number of cases	Percent
Urban	49	69,02%
Rural	22	30,98%
Total	**71**	**100%**

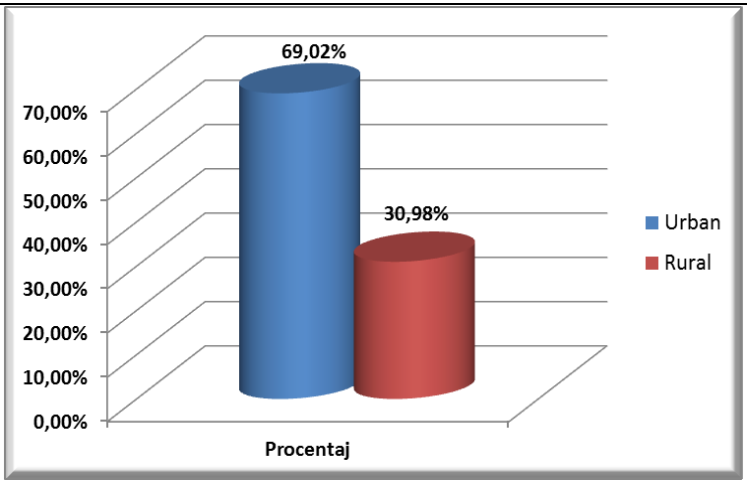


CHART No. IV - DISTRIBUTION OF CASES BY AREA OF ORIGIN

The environment has some significance in colorectal neoplasms occurrence of secondary determinations liver. Most frequent cases came from urban areas. Percentage of rural areas (30.98%) is probably due to low addressability to the specialist doctor because they only pay attention to symptoms when is too late and also limited financiary opportunities to access the doctors in the city.

TABLE No. 5 - PATIENTS STUDY BY HEADQUARTERS OF LIVER METASTASES

SEDIUL METASTAZEI	Number of cases	Percent
Determinari secundare unilobare	21	29.57%
Determinari secundare bilobare	50	70.43%

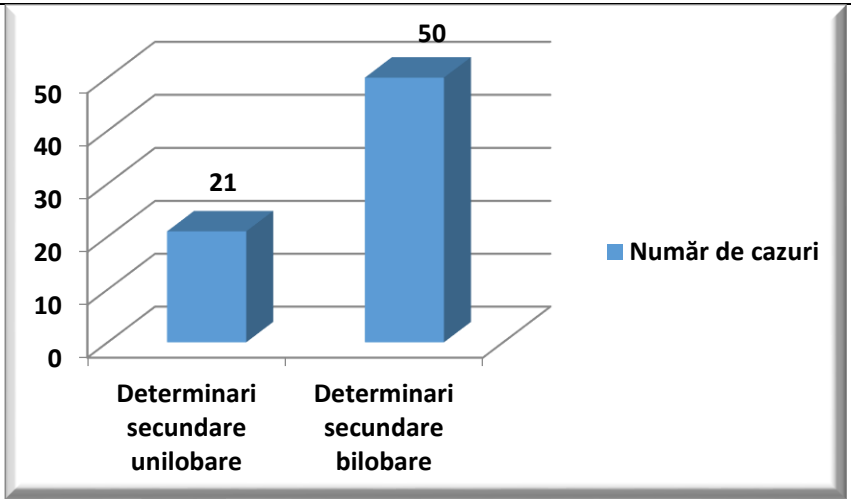
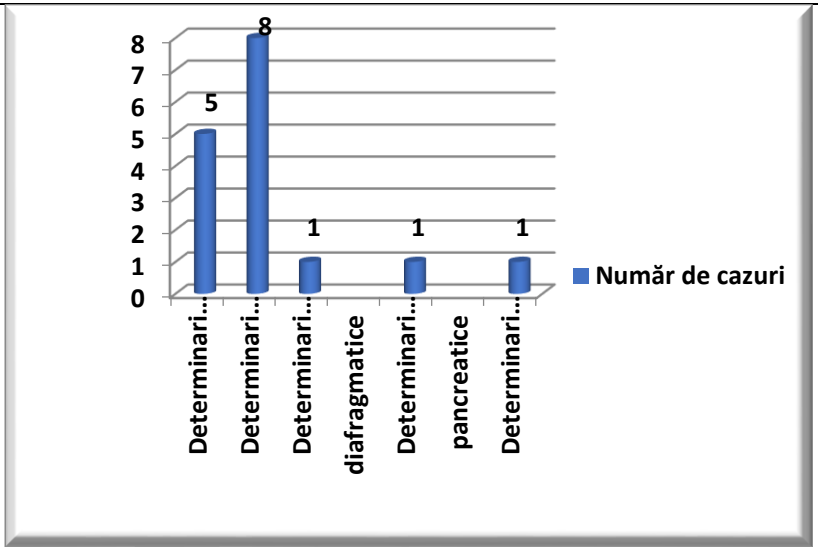


CHART No. V - ALLOCATION OF CASES BY HEADQUARTERS METASTASIS

We found 21 patients with secondary determinations of unilobare and 11 had solitary determinations; the rest had between 2 and 4 metastases. It is noted that most metastases are found in the right hepatic lobe, the other 10 determinations being bilobal, multiple.

TABLE No. 6 - THE STUDY OF PATIENTS WITH LIVER METASTASES BY THE SECUNDARY ASSOCIATED METASTASES

SEDIUL METASTAZEI ASOCIATE	Number of cases	Percent
Pulmonary	5	7.04%
Peritoneal	8	11.26%
Diafragmatic	1	1.40%
Pancreatic	1	1.40%
Bones	1	1.40%



Of the total of 71 cases of colorectal cancer with liver metastases,we note that 16 paatients presents associated metastases, respectively: 8 cases with peritoneal carcinomatosis, 5 with pulmonary metastases and one case of pancreatic metastases, diaphragmatic and bone metastases

TABLE No. 7- THE STUDY PATIENTS WITH LIVER METASTASES BY TYPE CURATIVE SURGERY

Type of curative surgery	Number of cases	Percent
Electroresection	11	34.37%
Atipical metastasectomies	4	12.50%
Electrocoagulation	6	18.75%
Alcoholisation	1	3.12%

We found that of the total of 32 patients operated for surgical removal metastasis, 8 were unresectable metastases,and on the the remaining 22 patients were used various surgical techniques according to the size of metastases. Thus, on 11 patients was practiced electrorezectie,on 4 of them was practiced atypical metastasectomies,on 6 was practiced electrocoagulation, on one patient was practiced metastases alcoholization, and on 2 patients were used associated techniques, such as termoablaţion with electrocautery and injection of ethanol. In conclusion we can say that

colorectal neoplasms with liver disease are more common in males (73%) in a range between 61-90 years, predominantly urban patients (69.02). In terms of location of liver metastases with severe cases, bilobal predominated (50%) and secondary damage mestastases was found most frequently (8 cases out of 16) at peritoneal - peritoneal carcinomatosis, followed by lung locations (7, 04%), and diaphragmatic confort locations, pancreatic and bone (1.40%).

The therapeutic methods used consisted of 34.37% in electroresection, followed by electrocoagulation (18.75%) and then atypical metastasectomies (12.5%) and alcoholization (3.12%).

6. PERSONAL CASES

CASE 1.
B. G., 73 years old, jud. Cta, D I 8.5.2007
Dg admission: rectal tumors
Dg discharge: stenosing rectal tumor with liver metastases.
Colonoscopy report: 11-12 cm of the anal vent we identify proliferative circumferential formation, irregular, friable and bleeding to the touch, increased consistency in depth. The lumen is narrow and does not allow the endoscope to pass

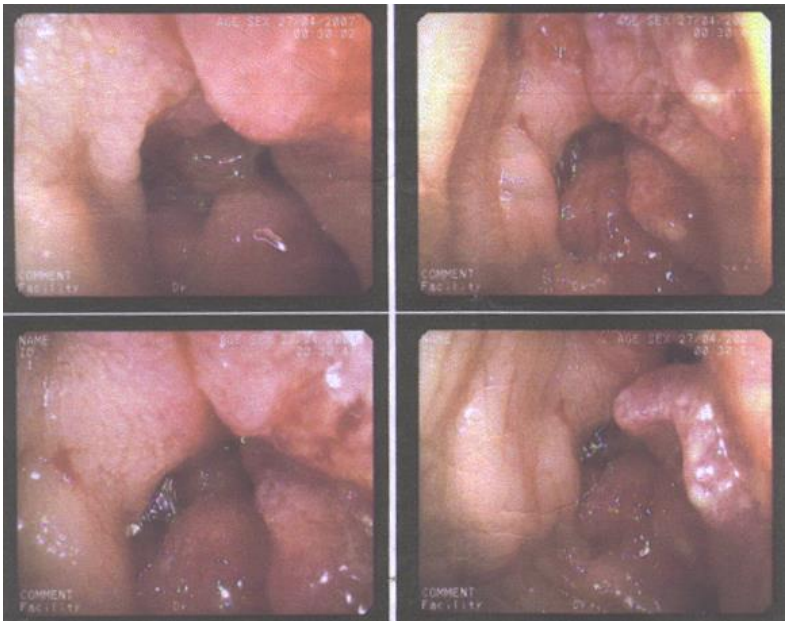


FIG. 25 -

Hepatic echography: multiple hyperechoic nodular formations with variable diameter up to 3 cm, with halo distributed in both lobes. (Metastases).
They practiced rectocolectomy, Hartman type segmental type with left iliac anus.

The patient was operated for a tumor of the rectum, during the surgery, the liver metastases were found, it was decided surgical treatment of rectal tumor using segmental rectocolectomy and delay treatment of liver metastases.

CASE 2

C. D., 71 years old, jud.Cta. DI: 12.10.2007.
Dg admission: sigmoid cancer.
Dg discharge: sigmoid cancer with liver metastases in segment IV.
Epicrisis: patient without significant medical history was hospitalized for current hypogastric pain and transit disorders, accompanied by sporadic rectoragies, weight loss, symptoms that began 10 months ago.Slender abdomen , moderately painful on palpation in the left flank and hypogastrium, which reveals a formation of 10/8 cm pseudotumoral, imprecisely defined, moving on suprajacent plans and relatively fixed on deep plans.

FIG. 26

Rectoscopy described toward 35 cm of the anal vent a colonic luminal stenosis. CT scan described on right hepatic lobe , subdiafragmatic,a tumoral formation with irregular outline of 5 cm, intrapelvin secondary process of 6-7 formation cm, with thick wall, anfractuous.

We practiced xifopubian incision. In the peritoneal cavity is found a tumor on the upper slope of the sigmoid ,adhering the distal sigmoid and upper portion of the rectum. Tumor tissue infiltrated the segment until aortic bifurcation. We Cut the mesenteric vascular pedicle at its origin, then stood block tumor, proximal rectum and colon, lower splenic angle of the colon, colorectal anastomosis is performed posterior, toughened double layer above. It then explores liver metastasis in segment IV, which develops almost entirely of 5-6 cm diameter. After sectioning the sagitall ligament of the liver and also the parenchyma at 2 cm of metastasis and is removed by

an atypical hepatectomy metastasis and the tissue neighborhood. We remove a node from the hepatic artery for HP. It drains to Douglas, left subfrenic and subhepatic space.

The patient presents for sigmoid tumor ,during surgery we found liver metastases in segment IV and its removal is decided by atypical hepatectomy in the same intervention, after sigmoid tumor is resected and colorectal anastomosis is performed.

CASE 4

A. C. -72 Years, Constanta County; DI: 21. 02. 2008

DG admission: lower rectal cancer with liver metastases

Dg discharge: rectal bleeding tumor, liver metastasis, external hemorrhoids

Patients aged 71 years, known previous in medical history of hypertension, peptic ulcer, gallstones, external hemorrhoids, is hospitalized with rectal disorders like bleeding, bowel movement (constipation) and right upper quadrant abdominal pain in epigastrium, to diagnosis and specialized treatment

Local examination: enlarged abdomen, slim, sensitive to palpation in the epigastrium and right hypochondrium, tumoral hepatomegaly without signs of peritoneal irritation; to rectal examination, at a distance of 4-5 cm from anocutaneus line, can feel a formation of about 5-6 cm, increased consistency, with irregular surface.

Abdominal ultrasound and CT: highlights hepatomegaly with total disorganized echostructure by the presence of micro- and macronodular multiple images of different sizes, with central necrosis parenchyma , hypodense mass with secondary proliferative character.

The surgery is practiced under AG-IOT and we practiced exploratory laparotomy, definitive left iliac terminal anus , and the operattory diagnosis is lower rectal cancer with multiple liver metastases T4N1M1. Given the evolutionary stage, is practiced left terminal colostomy with distal end ligation. We fixed colostomy both to fascia and the skin.

The patient is hospitalized for lower rectal tumor, on CT and during surgery were detected multiple liver metastases, surgical treatment was decided by left terminal colostomy and delay liver metastases treatment, because they were unoperable

CASE 8

A.G. 53 years, gender M, Constanta County. DI: 26.09.2008
Dg admission: occlusive syndrome.
Dg discharge: intestinal obstruction by colorectal junction cancer . Lymph node metastases. Single metastasis in the right hepatic lobe.
The patient aged 53 years, was hospitalized with intestinal obstruction phenomena, for diagnosis and specialized treatment.
Examination of the abdomen and pelvis CT highlights:

- orthotopic liver, with normal shape and size, with the presence of a heterogeneous formations. The formation's structure is hypodense , located in the segment IV, vague outline, size 90/60 mm maximum axial, without dilatation of the intrahepatic bile ducts.
- ascending colon, transverse, descending, sigmoid much distended, with fluid present
- The absence of tumor and lymph nodes and intraperitoneal fluid.
- CT appearance evocative of:
- liver formation, hypovascular
- important colonic distension

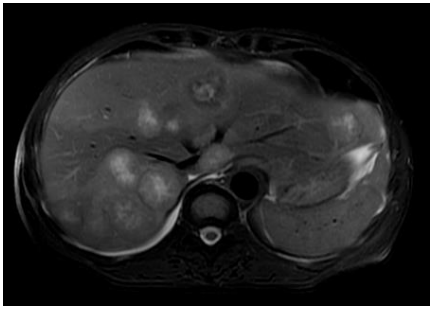


Fig. 28 - typical rectosigmoid adenocarcinoma metastasis with necrotic central area

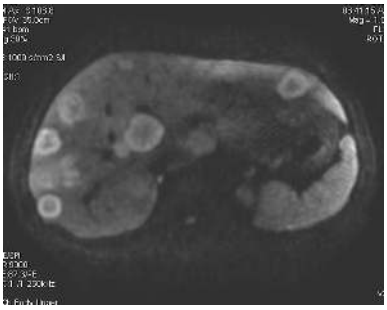


Fig 29 - typical rectosigmoid adenocarcinoma metastasis with necrotic central area

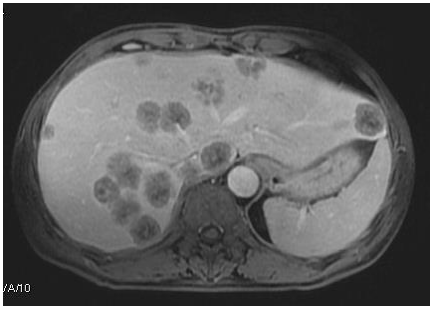


Fig. 30 – RM adenocarcinoma metastasis

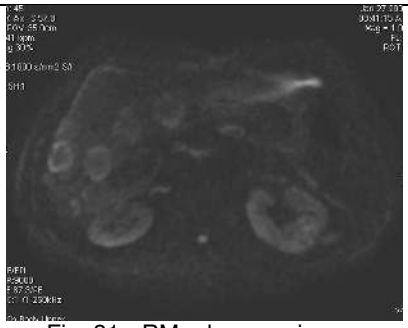


Fig. 31 - RM adenocarcinoma metastasis

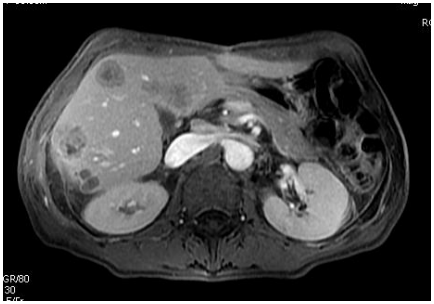


Fig. 32 - RM adenocarcinoma metastasis

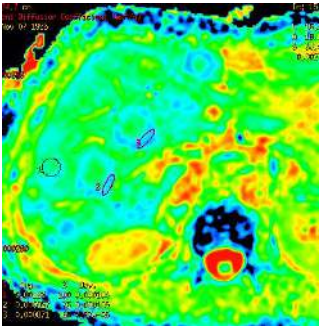


Fig. 33 - RM adenocarcinoma metastasis

Abdominal ultrasound: liquid in both costodiafragmatic sinuses.
The surgery is performed under AG-IOT and practice: segmental rectocolectomy with colorectoanastomoses TT. Right hepatic lobe atypical hepatectomy.
It performs a median incision beneath and below the ombillic , cranial and caudal extended for necessity. It highlights a tumor stenosis, occlusion at the rectosigmoid junction. The colon is very relaxed, ischemic and cracks easily making it more difficult for tumor resection.
Because of these lesions in the sigmoid colon,we descend the splenic angle and we performed a colorectal anastomosis, prosthesis on the probe Foley. In the right lobe a large metastasis is found, 8-10 cm, located in segment VI marginal, and at the origin of mesenteric artery are found lymphatic nodes to be resected. Liver metastasis is resected by atypical hepatectomy. It then drains the splenic lodge, subhepatic space and Douglas. Anatomical

restoration of the abdominal wall. In many areas of the liver surface whitish dots are found, that could be cytological micrometastases. Postoperative, an anastomotic fistula is placed, with a small flow which is sanctioned by an enterostomy protection.

Anatomopatologicall result: parts sent.
1. Lymph periaortitis
2. Tranche section distal rectal
3. rectal polyps
4. Colon
5. mesenteric lymph metastasis.

Macroscopic description:
1. Two nodular formations with a diameter of 1 cm, the color gray on section, consistent.
2. 2.tissue fragment of 10 / 0.5 cm, color gray, slim.
3. Tissue fragment of 1 / 0.4 cm, color gray, elastic consistencies
4. segmental colectomy fragment length 30 cm presenting at a distance of 5 cm an ulcer-vegetative tumor of 4.6 cm occluding 90% of the lumen, red, variable consistency. Its coressponding to the serous it presents a yellowish formation, increased consistency and abcedated areas. At a distance of 3 cm from another faction formation is observed an exofitic formation of 1.5 / 1 cm with ulcerated surface.
5. Liver fragment with an 11/6/5 tumor presenting a nodular formation 10/5 / 5cm
6. Two fragments of adipose tissue of 2.5 / 1.5 cm and 1.2 / 0.5 cm presenting three nodular formations of whitish-gray colour, increased consistency

Microscopic description:
1. Periaortic lymphnodes of1/1 diameter with sinusal histiocytosis
2. Tranche of distal section with the aspect of the lining and hyperplasia of lymphoid follicles ,typical
3. glandulo-cystic polyps with granulomatous infiltrate, emphasized in corionic lining .
4. piece of segmental colectomy at 5 cm below, presents a 5 cm lesion - moderately differentiated papillary adenocarcinoma adenoid-cystic carcinoma associated with dissecting granulomatous infiltrate. Carcinomatosis thrombus capillaries; granulomatous peripheral nervous tissue. Adipose tissue carcinomtoasa peritumoral invasion; 2 lymph nodes 0.3 / 0.4 with subcapsular carcinomatous invasion.

5. Liver tissue with massive invasion of coloido-cystic adenocarcinoma
6. Three mesenteric lymph nodes of 0.5 / 0.5 with sinus histiocytosis. T4N1Mx.

The patient is hospitalized for colorectal tumor junction. During surgery,a large single metastasis was found in the right liver lobe, and for that tumor surgery was decided by resection and colo-rectal anastomosis probed on a Foley prosthesis and also practiced an atypical hepatectomy, resecting metastasis.

CASE 9

M. V, 54, jud. Constanta DI 27.08.2008
Dg. On admission: colon malignancies
Dg. At discharge: tumor of splenic angle of the colon, with liver metastases
Bulletin pathology:
Microscopic description: nodular lesion 3.5 / 3 / 2.8 cm, polycyclic outline, yellow-gray, low consistency.
Microscopic description: lymph node (hepatic pedicle) - excision-absence of signs of neoplastic invasion; liver - excision biopsy - moderately differentiated adenocarcinoma metastasis.
Epicrisis: patient without personal patollogical medical history, shows for about a month,abdominal pain, accompanied by disturbances of bulk transit. Colonoscopy reveals from the descending colon to the splenic angle a protrusion stenosing protrusive tumor and a pedunculated sigmoid polyp, for which has been practiced polypectomy. Local: Mobile, slim abdomen moderately painful on palpation in the left flank, where palpatory examination reveals a relatively fixed tumor, imprecisely defined,fixed on deeper plans without signs of peritoneal irritation. Ultrasound and CT describe in the 4th hepatic segment a 25/26 mm suggestive image of metastatic characters. The procedure is practiced under AG-IOT, concisting in hemicolectomy, colo-coloanastomosis TT, liver metastazectomies. Favorable evolution.
Diagnosis: Neoplasm of splenic angle of the colon with liver metastases
Cranial incision is extended over and under ombilical line, reveals a tumor of the left colon, immediately below the splenic angle downward, with the abdominal wall invasion. In segment II of the liver, metastasis shows a 1.5 cm diameter and in segment IV, but deeper, about 2 cm towards, another small metastasis. In the 7th segment, visceral surface, shows a metastasis of 7 cm diameter to about 1.5-2 cm depth in the liver . The left colon is resected with lymphadenectomy to the origin of inferior mesenteric artery and the tumor and we practiced colocoloanastomosis keeping the superior mesenteric artery.

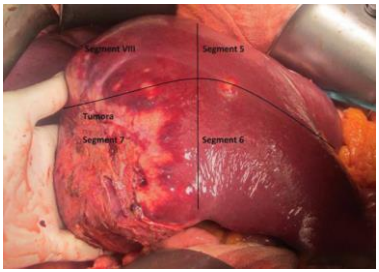


Fig. 34

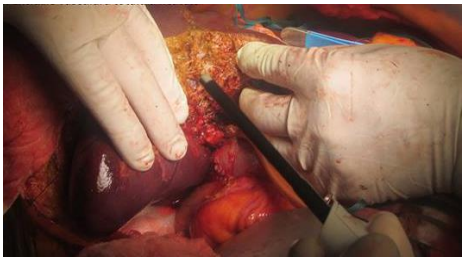


Fig. 35

Anastomosis was performed separate mono plan with nylon yarns. It then is the resected liver metastasis in the 3rd segment, left lobe.
Two metastases are electrocoagulated by microtomy. It is resected another metastasis with a diameter of 1.5 cm and another hepatectomy is practiced on the visceral surface of 7th segment of yhe liver using the Pringle maneuver. It penetrates intrahepatic, it takes off an ovoid metastasis of 4 / 2cm.
The uterus has 2 fibroid nodules. In hepatic pedicle lymph nodes are found to be excised and sent to the AP then drains both the liver and intrahepatic

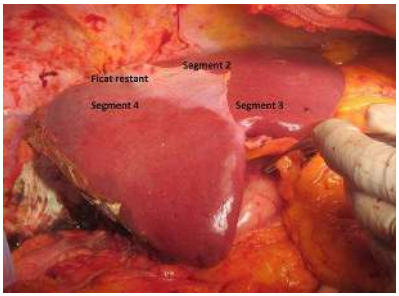


Fig. 36

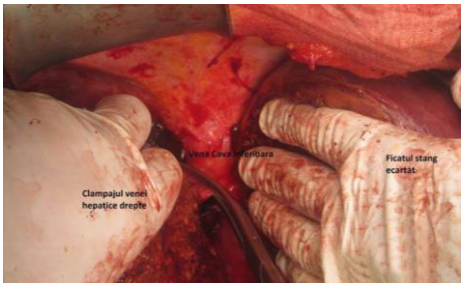


Fig.37

Control hemostasis
Closing wall in anatomical layers.
The patient is hospitalized for a tumor of splenic angle of the colon, during surgery liver metastases were found, it was decided surgical treatment of colon tumor, by tumor resection and left colon and colocoloanastomosis. During the same intervention we practiced left attypical hepatectomy and electrocoagulation of metastases.

CASE 10

M. P. 71 years, Constanta County. DI: 09.03.2009

Dg admission transverse colon cancer with latero-lateral coloanastomoza.

Dg discharge: colon cancer and liver metastases in the segment 7-8 and 1opereted

Patient aged 71 years, known in APP with hypertension and aortic regurgitation gr II, diagnosed three years ago with transverse colon cancer with latero-lateral coloanastomosis, with subsequent favorable evolution, presents at imaging investigations conducted two months ago, two tumors of the liver,suggestive appearance of secondary processes, which is why he was hospitalized for diagnosis and specialized treatment.

Local Exam: abdomen slim mobile with respiratory movements, painful on palpation spontaneously without signs of peritoneal irritation,bowl movements present.

We decide and its practiced surgery under AG-IOT, by metastasis ablation with heat and chemical, interhepatodiafragmatical and subhepatic drenage. It is made an xifoombilical incision. When opening the peritoneal cavity is found adherents intensive process that requires adeziolisis. On inspection and palpation of the liver metastases, indicate the presence of about 1cm segment and a voluminous tumor in 7-8th segment and 1st segment, which is practiced termoablation with electrocautery and respectively injection of ethanol 96 degrees after opening posterohepatic ligament

M. P., 71 years Cta County DI 23.12.2009

Dg admission: colon cancer with liver metastases.

Dg discharge: colon cancer with liver metastases.

Epicrisis: known hypertensive patient, with transverse colon cancer, who underwent segmental colectomy of the transverse colon in 2006 and for liver metastases who underwent metastazectomy in 2009 and seven sessions of chemotherapy, shows current right upper quadrant pain, which is why is hospitalized for specialized investigations and treatment. Ultrasound describes multiple hypodense areas in the liver. Ct:accented hepatomegaly ,with multiple centimetric formations, characteristic for secondary determinations. Post inravenos contrast, appears intrahepatic multiple formations,wich are separated, imprecise outlined, sized 1-10 cm, hipocapturing,located in the right hepatic lobe.

M. P: 72 years, Constanta, DI: 01.02.2010

Dg discharge: colon cancer surgery. Unresectable liver metastases.

Patient aged 72 years, known with hypertension, aortic insufficiency, transverse colon cancer who underwent segmental colectomy of transverse

colon (2006), chymiotreated (7 sessions), right upper quadrant pain, shows to be hospitalized for specialized investigations and treatment.
Local Exam:slim abdomen, mobile with respiratory movements, painless on palpation, with no signs of peritoneal irritation
Abdominal MRI with contrast highlights multiple liver metastases, bilobal , of wich the most voluminous handle the caudate lobe and extends in neighboring segments, incorporating the right and middle hepatic veins, portal vein, right and left
Because of unresecablle liver metastases and multiple and bilobal, the surgery is not indicated. The patient was discharged in stationary state.
Patients with known transverse colon cancer, with latero-lateral colocoloanastomosis diagnosed and operated three years ago, present at admission liver tumor appearance suggestive of secondary processes, for which intraoperative is practiced termoablation with electrocautery and respectively injectionwith ethanol 96 degrees after opening posterohepatic ligament. The patient was discharged in improved condition. At a distance of 11 months, during time he attended seven sessions of chemotherapy, the patient returns and abdominal MRI with contrast agent highlights multiple liver metastases, bilobal of which the most voluminous, deals caudate lobe and extends into neighboring segments, encompassing right and middle hepatic veins,portal vein, right and left. Surgery is exceeded, metastases are large and unresectable. The patient dies 4 months since the last inspection.

CASE 21
M.G .: 63 years, Constanta, DI: 07.05.2010
Dg discharge: giant retroperitoneal pelvic-abdominal tumor with invasion of the sigmoid. Liver metastases.
Patient aged 63 years, hypertension, presents rectal and lower abdominal pain, which is why is hospitalized for diagnosis and specialized treatment.
Local Exam: abdomen enlarged by panicle adipose cels,l with respiratory movements, sensitive to deep palpation in the lower abdominal, without signs of peritoneal, bowl movements present.. TR: rectal ampulla supple, with remnants of faeces
Abdominal ultrasound: moderate hepatomegaly with heterogeneous echostructure; IV-V th segments shows a hyperechoic formation with heterogeneous echostructure with cockade aspect with irregular contour and diameter of 4cm. In middle abdominal quadrant, to the right flank, it highlights a conglomerate tumor with a diameter of about 12cm, with irregular contour, imprecisely defined
Colonoscopy: colonoscopy penetrate to about 30cm which shows a large

tumor, imprecisely delimited, cauliflower appearance, very friable, circumferential, almost stenosiing, which does not allow the colonoscope to pass.
The surgery is decided and under AG-IOT is practiced recto-sigmoid resection with left colostomy; retroperitoneal tumor removal and liver metastases alcoholoization. It performs a median laparotomy, it highlights a retroperitoneal tumor in the pelvis, where evolving invades bladder serosa, also invades the sigmoid, making a barrier almost completely.

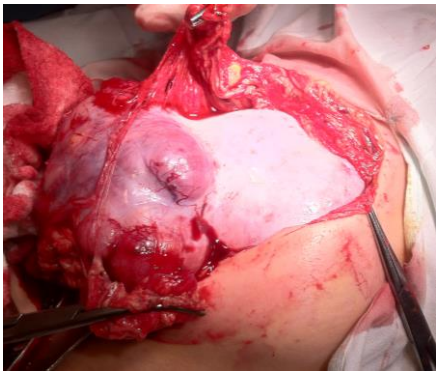


Fig. 41

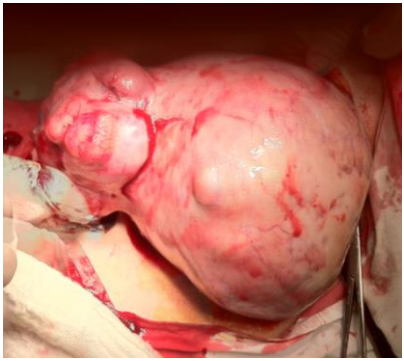


Fig. 42

The right hepatic lobe, 4th segment it highlights a 5cm metastasis and in 2nd segment parasagittal region, it highlights another one, smaller. Tumor also invades an area of about 6 cm from a small bowel loop, this loop is resected with an entero-enteral anastomosis in double layer, it takes off from the bladder tumor without opening the bladder with electrocautery, and the inferior mesenteric artery ligated near the edge and remove retroperitoneal tumor, and Cut the rectum under rectosigmoidian invasion. The tumor is about 15-20cm

CASE 22
A. P .: 64, CNST, DI: 03.11.2010.
Dg discharge: malignant tumor of the recto-sigmoid junction. Secondary malignant tumor of the liver. Acute peritonitis.

Patient aged 64 years, emergency transferred from the oncology clinic, with clinical signs of acute surgical abdomen. After investigating and preoperative preparing, is practiced rectosigmoidian surgical resection with terminal left iliac anus, lavage, multiple peritoneal drainage for rectal cancer perforation and peritonitis,mixt intestinal occlusion: mechanical and inflamatory
MRI scan of the abdomen and pelvis reveals shape and size orthotopic liver in normal limits, heterogeneous structure by the presence of numerous well defined formations arranged randomly in liver parenchyma with different axial dimensions to a maximum of 33 / 27mm, without dilatation of biliary intrahepatic. Rectosigmoidian circumferential thickening of the wall, over a distance of 52mm which causes significant stenosis at this level.; infracentimetrice peritumoral lymph nodes.

Fig. 43 - RM rectosigmoid adenocarcinoma metastasis in FLAIR signal

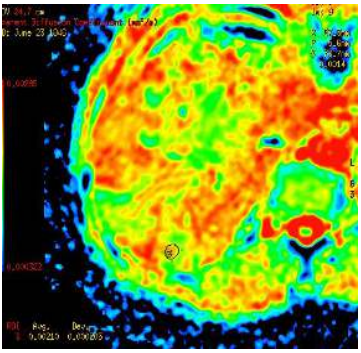


Fig. 44 - RM rectosigmoid adenocarcinoma metastasis in FLAIR signal

Fig. 45 - RM rectosigmoid adenocarcinoma metastasis

Fig. 46 - RM rectosigmoid adenocarcinoma metastasis

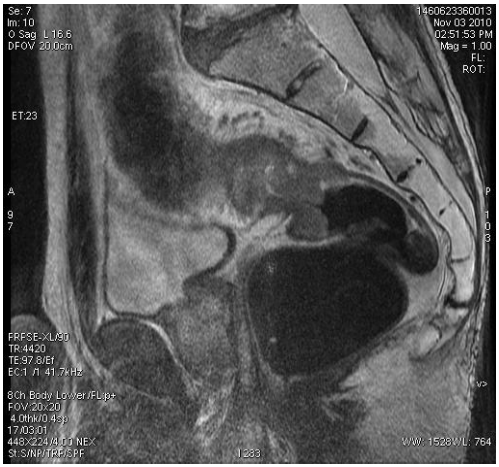


Fig. 47 - primary recto-sigmoid tumor associating secondary hepatic lessions

They decide and practice under AG-IOT rectosigmoidian segmental resection with left iliac terminal anus. Pubosupraombilical median celiotomy.the intestine presents loops occlusion by abscesses, agglutinated with each other. Sigmoid colon presents a perforation proximal to the tumor from where leak faeces. Rectosigmoidian segmental resection is practiced, the rectum is mobilized and ligatture of the mezosigmoid and closing the distal termination.

7. RESULTS AND DISCUSSION

Colorectal cancers are mostly epithelial (adenocarcinomas), up to 95% - 98%. The danger of these tumors is the local elements that harm neighboring organs invasion, and metastasis in lymph nodes and then to the filtering organs, primarily the liver being. Surgeons in colorectal cancers, are common and "seeding" of neoplastic cells in abdominal visceral peritoneum, free or arising by peeling the invading serous cancers. In these situations occurred multiorgan surgery and for metastases occurred metastazectomis. Some digestive cancerous tumors have the structure almost normal and are called adenomorfeous. They have reduced aggressiveness. The organization of these cancers cellular outlines and suggest adenomatous structure. In our patients this phenomenon was found in 6 cases, which had a favorable prognosis.

Other cases had anaplastic tumors, that had total cellular anarchy. These give more aggressive metastasis, difficulties in metastasectomies and poor prognosis.

On this basis our group research outlined a modern phenomenon of colorectal oncosurgery namely prognostic indicators citohistological. There seems to be a category that will evolve worse after metastazectomies. It's fast local invasion and metastasis by tumor vascular-lymphatic embolus. In our case it was the small cell tumors, mucinous cells in signet ring.

A second group of cases had a favorable prognosis. In these cases we did not metastazectomies and they were the majority. These descriptions often peritumoral lymphoplasmacytic infiltration and lymph, although enlarged, lymph nodes showed histiocytic reactions.

Note that we have not found and studied metastases in the lungs, made towards retroperitoneal venous system veins of Retzius and lumbar veins. We observed 7 cases were cancers developed rear acolyte fascia of Toldt I and Toldt II, who do not have lung metastases.

In our group of patients we based on imaging data, although there are some clinical features suggestive of liver metastases. They are late and therefore we have not used any of them not beeing pathognomonic.

although laboratory data have low specificity, as clinical elements were present and pathological.

The most useful I might suggest they are: F. alkaline ALT and AST and hypercalcemia. Of immunoassays which run parallel to the imaging data are AFPin liver metastases, CEA.

Among the most faithful explorations splitting liver metastases were: ultrasound, intraoperative ultrasound, CT, MRI

We will propound to discution intraoperative ultrasound, which represents an essential gesture for liver metastasectomies.

This method can detect deep liver metastases, often unknown preoperatively. The data are obtained intraoperatively are very important because they will help to establish a relationship between metastasis and of large intrahepatic vessels and bile ducts segmentation.

This element is essential because intraoperative safety element excision of metataze requires resection at a distance of 1 cm outside metastasis.

Everything about intraoperative ultrasound confirmed metastases is observed and grouped numerically imposing atypical liver resections. Quite different is the situation of single liver metastasis, which is limited to metastazectomis..

Liver resections range must be avoided as much as possible, because the metastasectomies spares remaining liver parenchyma. This is necessary both quantitatively and minimum 20-30% also for the situation of reappereance of metastases. If you practiced a massive resection (right or left hepatectomy) resection surgery is hardly conceivable because the remaining healthy parenchyma will not cover cover the necessary for survival.

Metachronous liver resections are more possible if is practiced a metastazectomies not hepatectomy. Intraoperative ultrasound was applied to Constanta, being under new publication, a national priority. The first conclusions on the value of these methods we find in a paper in the journal Medical Dobrogea titled "The value of intraoperative ultrasound in liver metastases" (V.Sarbu, F. Botea, T. Yusuf O. Unc, R. Smith)

In the following years the patients operated using intraoperative ultrasonography, for various liver operations, have grown in number.

So it made a lot of cases they founded in 2009 doctoral thesis "Application of intraoperative ultrasound in abdominal" coordinated by Prof. V. Sarbu and by Dr. F. Botea. In coming years, the collective experience of Constanta in ultrasound-guided surgery was the subject of several scientific works. We recall in IASGO Symposium 2009 paper "ecoguided liver surgery - single center preliminary experience" (V. Sarbu and all). A number of papers have appeared in the Academy Annals of science domains in Romania (2010) or Surgery Journal (2006). So Surgery clinic experience in Constanta, in the liver metastazectomies is based on experience over two decades. Our experience shows that application of ultrasound probe directly to the liver, brings great images. It requires a high frequency probe (7.5 to 15 MHz) with possibilities of color Doppler and Power Doppler. We provide a complete

penetration of the liver (up to 15 cm depth). The transducer with side view is superior than the one with the front view. Intraoperative ultrasound completes and clarify preoperative diagnosis. Intraoperative ultrasound can provide information about the operability of metastasis or any focal liver lesions. We had two cases, early experience, when this method has revealed some occult lesions. Exploring the visual and probe liver in caseof metastases, it is much inferior than the intraoperative ultrasound.
The method was appreciated in this regard since 1996 when Hermank, on a sample of 272 cases founded liver metastases in 7.7% of cases.
So intraoperative ultrasonography is a capital method in surgery of liver metastases, with a senisibility of 95-100% in cases in which we applied it
In our patients, liver metastases were more common in the right lobe.
Mentioned that we have cases to be used laparoscopic ultrasound. I noticed however that to get a good intraoperative ultrasound image only if hepatic ligaments support were sectioned , especially right triangle.
If between metastases and large intrahepatic vessels there intimate relation, metastasectomies may be contraindicated. For these patients was decided not to make metastasectomies, were not included in the study.
The use of contrast is another element that we have not quantified, but the literature appreciate it as very useful. It is difficult to operate a metastasis if is at a distance less than 5 mm of an important intrahepatic vessel or has bilobal invasion of portal pedicle. We mention This phenomenon because intraoperative ultrasound and liver resection can assist not only metastazectomies. But the fundamental element offers us intraoperative ultrasound when making the decision. Ultrasonography used to Constanta an ultrasound probe 500. GELOGIQ was placed in a sterile plastic bag in which I introduced ultrasound gel contacts. The liver was not mobilised, but they watched segments from left to right. I noticed intrahepatic metastasis in contact with veins but also metastasis invading these vessels, in this long period of use of the method. It is good for these patients to pursue postoperative : liver function tests, marker CA 19-9 correlated with metastasis, alpha fetoprotein (which is more than most loyal and faithful in primary liver cancers). In the first stage of liver metastasectomies, Surgical Clinic II in Constanta were performed in approximately 90 cases. Experience continued and allready includes 71 metastasectomies by the end of 2011. On our first cases we observed that metastazectomies were contraindicated for peritoneal carcinomatosis.
Note that metastazectomie not registered any case of mortality.
All resected liver metastases confirmed their malignincy by histopathology after surgery.

The mean duration of surgery excision of the tumor and metastasis was watched at 25 cases and was 310 minutes. Literature mentioned that average exceeds 500 minutes but refers to more complex operations than effectuated us in clinics. Blood loss rigorously tracked 10 cases was 400 ml / event. No literature does not play high losses (500ml). In 23 cases we used Tahosil on metastazectomies, sheets of 2-4 cm with very good effect.

In cases in our study , onlyin 23 cases,we succeeded to resect 1cm around metastasis. The remaining cases were resected 2-3 mm. this does not influence the postoperative evolution. The analysis leads to the conclusion that our group, with intraoperative ultrasound is extremely valuable and should be performed by surgeons with experience in this field.

In this paper, besides the batch processing statistics are presented 25 patients who were operated and followed directly. The results of this group supports the view that liver metastasectomies already included in luggage surgical techniques whenever binding can be. Peritoneal carcinomatosis or metastasis to other organs or anatomical regions will send the patient for liver cancer treatment without surgical approach. intraperitoneal Chimiohypertermia associated with metastasectomies on reduced metastasis and multiple intraperitoneal resections are still under study and have only chance to prolong patient survival.

Our study shows that metastasectomies were performed in patients aged over 60 years, most elderly with 88 years. This is very important because classicly, metastases are not resected on interventions applied on pathological cases, such advanced ages.

In principle, if concomitant metastases in other areas of the body, other organs or serous peritoneal prognosis is doctrinal and therapeutic indication, has limits.

The phenomenon of cytoreductive cancer, was concived for highly responsive to adjuvant therapy such as ovarian cancer. There the logic of operating ones and leaving in place others is demonstrated, because the chemotherapy will be more effective on restant tumors and thus outstanding pared longer, especially after the application of hormone therapy. However, the method was applied and 16 cases in our statistics, to which nothing has been done to concomitant pulmonary metastases (5 cases), peritoneal (8 cases), pancreatic (1 case) and bone (1 case). These 16 cases will open the perspective of extensive multiorgan metastastasectomies perspective that should not be removed from future surgery therapeutic area.

One of the oldest methods of destruction of metastases was the alcoholization.The tumor killer product used in our patients was 95% alcohol. It induces cell necrosis by dehydration and by protein denaturation of metastasis. The method faillure after the cases we analyzed, consists of

faulty diffusion of alcohol. He is introduced with a syringe needle into metastases larger than 3 cm,but we do not believe that there will spread asymmetrically out of the metastasis. Therefore repeat puncture, to increase the efficiency of the method.
But the method is not idle because there are authors who argue on destructions of liver tumors by percutaneous alcoholozation in unique cancers. Thus Mosoia in his doctoral thesis in 2013, "Cryodestruction liver tumors," mentioned in such cases, a surviving to 5 years on 30-50%, even it is mentioned a local recurrence. We have not applied cryotherapy but the author supports the method.
Cryotherapy began using liquid nitrogen on the surface of the liver. Modern methods use very low temperatures: -143 C. In the period after 1985, cryodistructians was used associated with intraoperative ultrasound and author considers superior to other non-surgical methods. We used electrocoagulation in 6 cases and electroresection on other 11 cases with identical results with surgical metastasectomies, since the end of these procedures each metastasis was completely destroyed and neighboring tissue was also destroyed by the effect of caloric result.
Surgical resection is considered today as the best method and is applied especially if is associated with intraoperative ultrasonography.
On 2 of the cases in our study we used intraoperatively Pringle maneuver that made the bleeding beeing minimized.
What is new in our work is starting electric metastasectomies destruction, so we can talk electrorezection. Electrorezection is considered superior to conventional resection of metastases. Our cases are still under investigation and we will add tracking and comparison with similar studies (Nordlinger in 1996, Stone in 1990, Mosoia 2013). We present these data also encourages metastazectomies and remember that there are authors who have conducted operations and resection of lung metastases and 2-stroke hepatectomy. We ligated the right lobar portal vein in 3 cases, but the intervention at 6 months was made in another health facility after restoration conglomerates metastatic liver size.

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9. CONCLUSIONS

- The prognosis of patients with colorectal cancer with liver metastases is very serious, 5-year survival was 0 in the absence of destruction metastasis, which is the only curative treatment target.
- study is a retrospective and prospective research on a group of 71 patients that were performed metastasectomies or destruction of metastases in other ways without mortality related to this maneuver performed in the same session with the surgery resection with primary colorectal cancer.
- echoguided operations are superior class operations and have been practiced as a national priority on Surgery Clinic II in Constanta since 2002. The method involves the formation of a competent surgeon in performing ultrasound machine with a penetration of 10-12 cm and Echo color Doppler.
- The results of the study area are still in our study but one year survival rate exceeds 20% which is accepted in the literature where the maximum sagging unoperated metastasis.
- Metastasectomies after electrodistruction are appreciated by us and we consider the originality of rigor as superior to metastasectomies on "living" metastases that could spread even during resection.
- Metastasectomies, by liver tissue reserve levels, are superior to adjusted or atypical hepatectomies. They allow iterative interventions in case of recurrence.
- The new old age group analyzed is not a contraindication to destroy metastases, most elderly patients in our study with 88 years. We believe that patients with serious associated pathology and older age, are proposed to serial operations.
- in the postoperative evolution of possiblecomplications we will look for liver function (ALT and AST) alfafetoprotein determination and ultrasound control. The distance carcinoembryonic antigen is used to determine recurrence.