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# Treatment of Caudate Lobe Metastasis Post Colon Cancer Surgery – Case Report

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**Abstract**
***Background***
Colorectal carcinoma is the third cause of mortality from malignant cancers. Upon diagnosis about 1 in 5 patients have metastatic disease. Furthermore, patients with local disease will on average have an incidence of 25% for distant metastases. Most common locations of CRC metastases are the liver, lungs, peritoneum and lymph nodes in distance. The diagnosis of metastatic disease in colorectal cancer should always be confirmed before any surgical or systemic treatment via adequate histological and imaging methods. Biochemical tests for carcinoembryonic antigen, CEA and carbohydrate antigen, CA19-9 are strongly advised. For the accurate staging of the disease IV contrast enhanced Computed Tomography is recommended, whereas MRI is useful in detection of exact number and location of liver metastases. Surgical treatment options may vary depending on the stage, locoregional involvement of the primary disease and the resectability of metastatic disease. It is a topic of ongoing investigation; however, guidelines recommend R0 surgical resection where possible as it may be potentially curative in 20-45% of cases.
***Case presentation***
We present the case of a 62 years old patient diagnosed with a right colon cancer and a solitary metastasis of the Ist segment of liver. He underwent the surgical procedure of right hemicolectomy and followed a course of 6 chemotherapy cycles. After an abdominal CT with IV contrast and abdominal MRI, a solitary caudate lobe metastasis is confirmed. A joint staff of oncologists, gastroenterologists and surgeons it is decided for a surgical intervention. He underwent the surgical procedure of the resection of liver metastasis in the caudate lobe. He tolerated the procedure well and was discharged in good health.
***Discussion***
In patients where metastases can be safely resected from the technical aspect, surgery is recommended. In cases where clear margins are difficult to achieve or patient prognosis is unclear, perioperative chemotherapy is mandatory, with FOLFOX or CAPOX regimens. In patients potentially curable with conversion therapy it is required to consider the molecular profile and tumor location. After starting conversion therapies patients should be evaluated periodically to avoid overtreatment. If surgery is feasible, metastases should be resected completely, maintaining at least 30% liver remnant.
***Conclusion***
Patient outcomes improve significantly when individual cases of metastatic colorectal disease are discussed between a team of oncologists, surgeons, radiologists, radiotherapists and other experts. We advise regular consultations of multidisciplinary teams to ensure the best therapeutic strategy. In conclusion, colorectal carcinoma is a complex disease, for which a therapeutic algorithm should be initially chosen and adhered to, by the multidisciplinary team to ensure the continuum of care.
**Keywords:** General Surgery, Colon Cancer, Liver Metastasis, Caudate Lobe Resection, I-st Segment Liver.
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## 1. Introduction

Colorectal carcinoma is the third cause of mortality from malignant cancers. Upon diagnosis about 1 in 5 patients have metastatic disease. Furthermore, patients with local disease will on average have an incidence of 25% for distant metastases. The most common locations of CRC metastases are the liver, lungs, peritoneum and lymph nodes in distance.

Among important risk factors we mention alcohol use, tobacco products smoking, obesity and sedentary lifestyle, diets in high red meat and low in fruits and vegetables, high consumption of processed food and fat.

The diagnosis of metastatic disease in colorectal cancer should always be confirmed before any surgical or

 

systemic treatment via adequate histological and imaging methods. Biochemical tests for carcinoembryonic antigen, CEA and carbohydrate antigen, CA19-9 are strongly advised.

For the accurate staging of the disease IV contrast enhanced Computed Tomography is recommended, whereas MRI is useful in detection of exact number and location of liver metastases.

Surgical treatment options may vary depending on the stage, locoregional involvement of the primary disease and the resectability of metastatic disease. It is a topic of ongoing investigation; however, guidelines recommend R0 surgical resection where possible as it may be potentially curative in 20-45% of cases.

## 2. Case presentation

### *2.1 History of present illness*

The 62 years old patient was diagnosed with a right colon cancer and a solitary metastasis of the I$^{st}$ segment of liver. He underwent the surgical procedure of right hemicolectomy and followed a course of 6 chemotherapy cycles. After an abdominal CT with IV contrast and abdominal MRI, a solitary caudate lobe metastasis is confirmed. A joint staff of oncologists, gastroenterologists and surgeons it is decided for a surgical intervention.

### *2.2 Details of the surgical procedure*

The surgical procedure is performed under general anaesthesia. A bicostal incision is made and the peritoneal cavity is accessed. We find a caudate lobe metastasis in the liver of 6cm diameter. The falciform ligament is cut and ligated and the liver is mobilized. The left coronal ligament is dissected and Vena Cava is visualized. Hepato-gastric ligament is prepared and the caudate lobe is exposed.

We continue with the luxation of the right side of the liver and its division from V. Cava. The caudate lobe is dissected from Vena Cava with the ligation of the vessels joining them, followed by the resection of the I-st segment in clear margins.

Hemostasis is controlled and the procedure ends with the positioning of a drain.

### *2.3 Post-operative period*

The patient was transfered in the intensive care unit where he was monitored for the following day. He was discharged in good health on the 6$^{th}$ postoperative day.

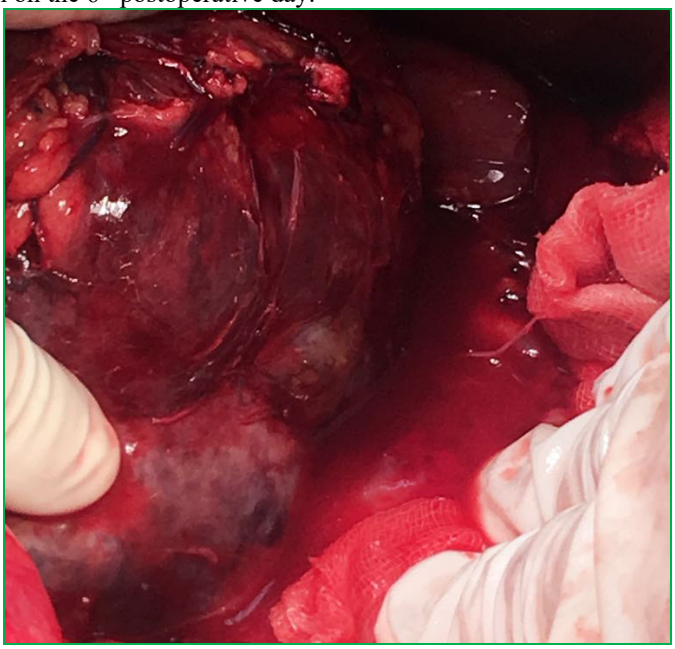

Figure 1. Caudate lobe liver metastasis.

 

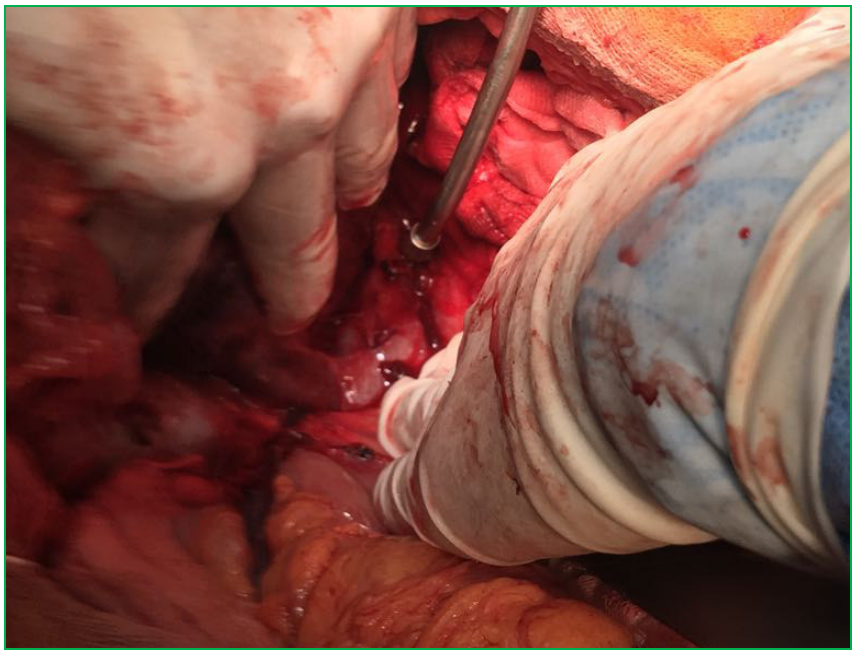

Figure 2. Dissecting to visualize Vena Cava.

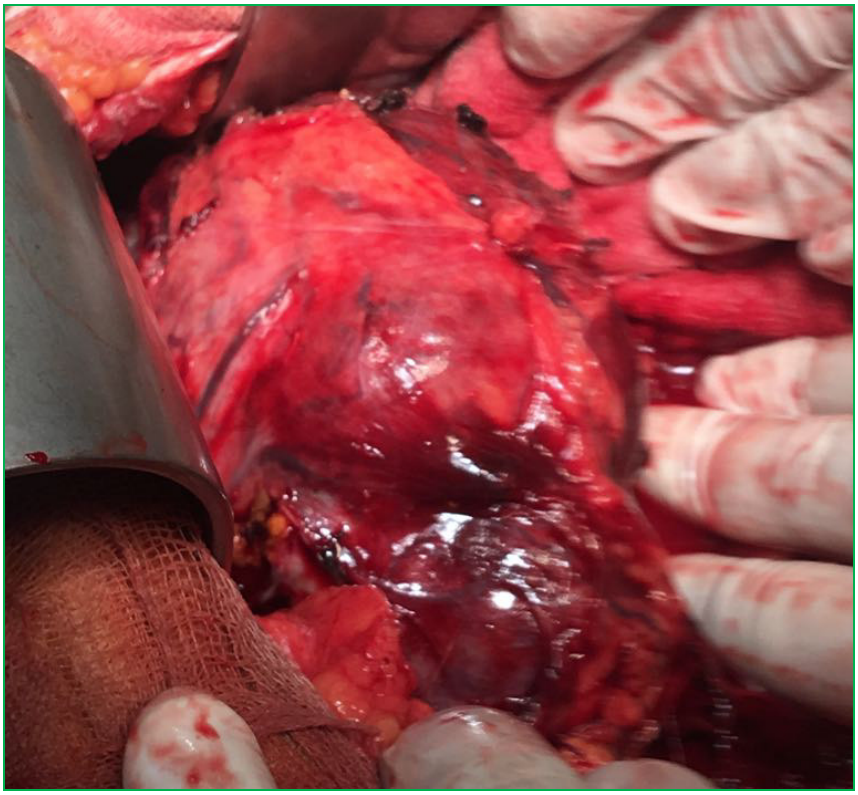

Figure 3. Mobilization of caudate lobe after dissection from Vena Cava.

 

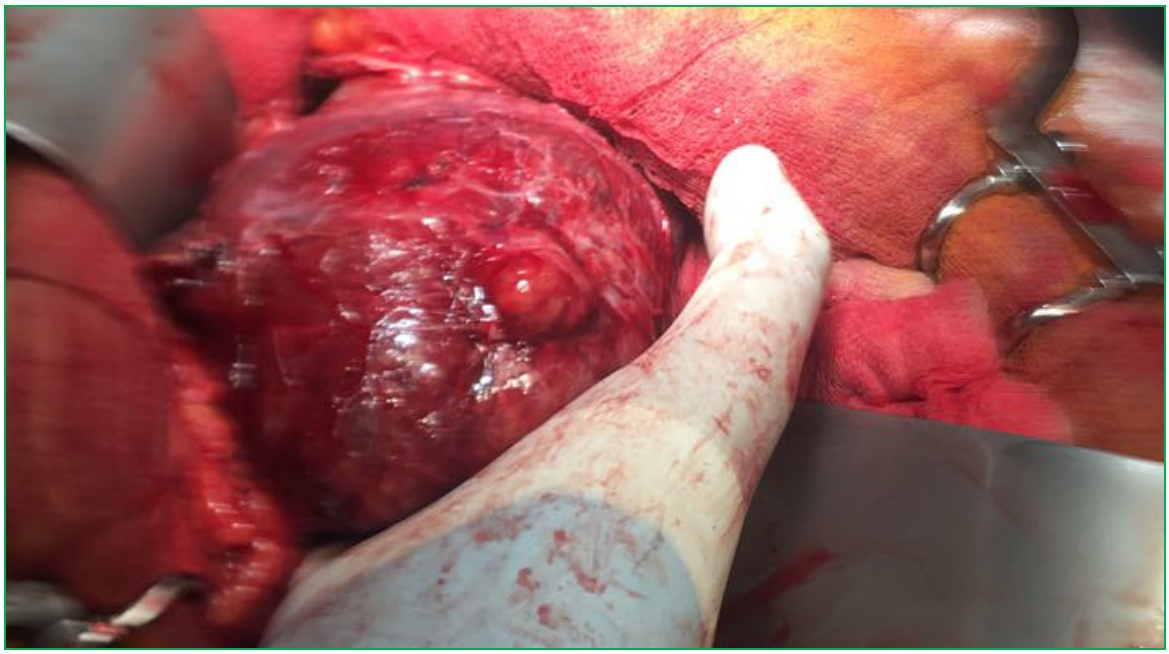

Figure 4. Further mobilization of the caudate lobe.

Figure 5. Complete resection of the I$^{st}$ liver segment metastasis in clear margins.

 

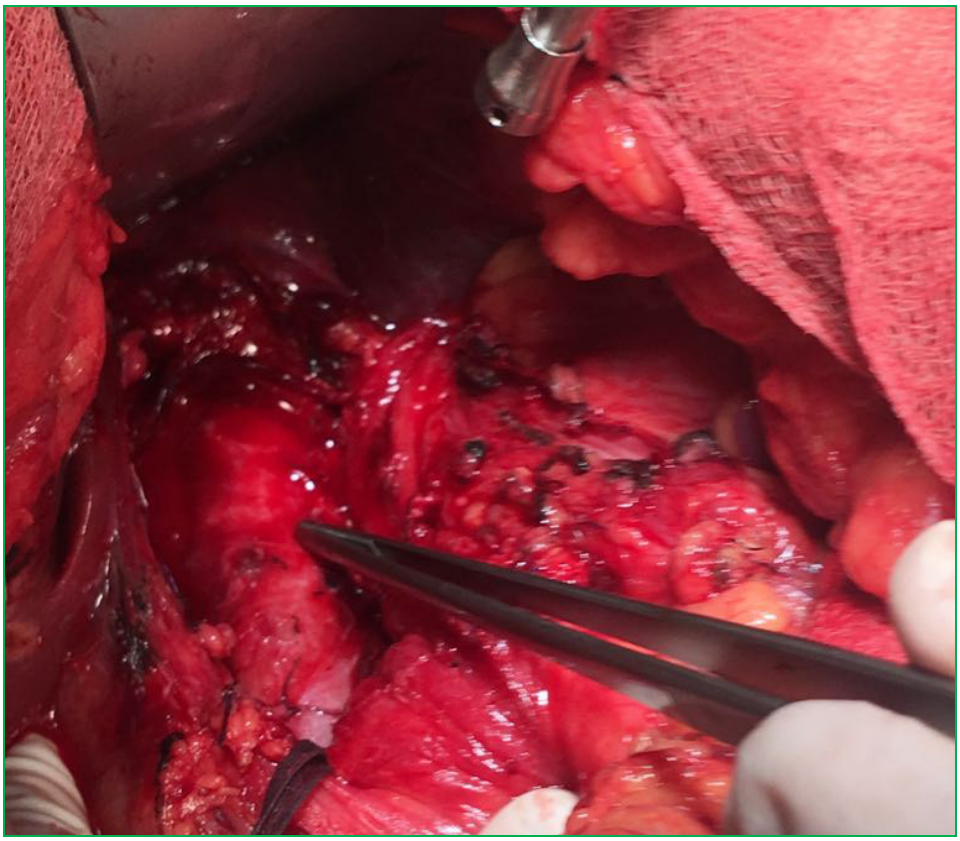

Figure 6. End result. Ensuring hemostasis.

## 3. Discussion

The latest protocols categorize patients with metastatic colorectal disease in four subsets depending on the severity of metastatic involvement and potential resectability of liver metastases.

Group I (Resectable metastases): In patients where metastases can be safely resected from the technical aspect, surgery is recommended. In cases where clear margins are difficult to achieve or patient prognosis is unclear, perioperative chemotherapy is mandatory, with FOLFOX or CAPOX regimens.

Group II (Potentially curable with conversion therapy): Before treatment it is required to consider the molecular profile and tumor location. After starting conversion therapies patients should be evaluated periodically to avoid overtreatment. If surgery is feasible, metastases should be resected completely, maintaining at least 30% liver remnant.

Group III (Oligometastatic disease): This group includes patients with up to three sites involved with 5 or more metastases potentially benefiting from ablation therapy prior or after systemic therapy.

Group IV (Non-resectable disease): Includes patients with metastatic disease that cannot be resected completely. These patients should receive non-intensive protocols as the goal is disease rate control.

## 4. Conclusion

Patient outcomes improve significantly when individual cases of metastatic colorectal disease are discussed between a team of oncologists, surgeons, radiologists, radiotherapists and other experts. We advise regular consultations of multidisciplinary teams to ensure the best therapeutic strategy.

Patients should be initially evaluated for potentially resectable disease. Following systemic treatment, cases initially considered unresectable may benefit from re-evaluation and may benefit from a surgical intervention.

In conclusion, colorectal carcinoma is a complex disease, for which a therapeutic algorithm should be initially chosen and adhered to, by the multidisciplinary team to ensure the continuum of care.

## Conflict of interest

The author(s) declare(s) that there is no conflict of interest. The authors alone are responsible for the content and writing of the paper.

## Financial disclosure

There is no financial support to this study.

 

**Ethical aspect**

Informed consent was obtained from all participants in the study and all procedures were conducted in accordance with the Declaration of Helsinki.

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