

Case Report

M-TACE Caused a Massive Necrosis of Liver Metastasis from Submandibular Cancer: A Case Report

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Abstract

Approximately, 40 – 45 percent of submandibular gland tumors are malignant. Liver is one of the most common sites of distant metastatic involvement with malignant submandibular tumors. Here, we report our experience with Mixed-Transcatheter Arterial Chemoembolization (M-TACE) in the treatment of liver metastasis from submandibular gland carcinoma.

Keywords: TACE; Liver metastasis; Submandibular gland carcinoma; Case report

Introduction

Transcatheter Arterial Chemoembolization (TACE) is an established procedure for treating hepatocellular carcinoma (HCC) and selected malignancies with liver metastasis. Considering liver metastases are most commonly hypovascular, conventional TACE (cTACE) is likely less effective and has largely been replaced by drug eluting bead TACE (DEB-TACE). Here, we report a new mixed emulsion containing Lipiodol and Embosphere microsphere was used to treat a solitary submandibular gland carcinoma liver metastasis.

Case Presentation

A 37-year-old male was treated with submandibular selective lymph node dissection in March 2017. The postoperative pathological biopsy confirmed Adenoid Cystic Carcinoma (ACC). PET/CT in our hospital suggesting multiple metastases throughout the body, including the right posterior lobe of the liver, mediastinal lymph nodes and bilateral lungs. Patients received 12 cycles of paclitaxel-nedaplatin systemic chemotherapy from November 2019 and started oral Surufatinib in May 2021. Two months later, external MRI showed multiple metastases in the right lobe of the liver, some larger than before, and additional new lesions. In August 2021, this patient underwent ultrasound-guided liver aspiration biopsy and cTACE combined with microwave ablation. After 3 months, our MRI reported a partially active residual lesion in the hepatic right lobe with invasion of the right posterior branch of portal vein, and multiple additional lesions. cTACE combined with radioactive ¹²⁵I particle placement were performed on 27th October 2021. On 1st December, 2021, abdominal

MRI showed: irregular large abnormal signal in the right lobe of the liver, the largest cross-section is about 11 cm * 8 cm, T1WI shows high and low signal, T2WI shows high signal, after enhancement, the lesion is surrounded by lumpy mild enhancement. The 3th TACE was performed via uAngio 960 (United Imaging corporation, Shanghai) on 6th December 2021. A 4-French MPA catheter was advanced into the celiac trunk via the transfemoral approach. The angiography showed that a giant hypovascular tumor staining in the hepatic right lobe without significant arteriovenous fistula, which was supplied by the right hepatic artery. Then, the microcatheter was introduced and catheterized into the right posterior hepatic artery. The large FOV CBCT was performed and showed the mild enhancement of liver metastasis that was consistent with preoperative MRI. Then, the conventional emulsion was prepared with epirubicin (40 mg) and lipiodol (10 ml). Firstly, 6 ml lipiodol emulsion were injected. A pickering emulsion (mixing lipiodol emulsion (2 ml) and 40 um -120 um Embosphere microspheres (1 bottle)) was formulated and injected. Considering that the vessels feeding the upper part of the tumor also supply the normal liver parenchyma, the residual lipiodol emulsion was used to embolize these vessels. Finally, postoperative angiography of proper hepatic artery and larger FOV CBCT showed the loss of tumor blood supply and the range of lipiodol deposition. One month later, MRI in our hospital indicated an extensive necrosis of liver metastasis (Figure 1).

Discussion

The most common malignant salivary gland tumors are mucoepidermoid carcinoma and adenoid cystic carcinoma (ACC), which totally comprise about one-half of all malignant salivary gland tumors [1]. Despite submandibular gland carcinoma is rare, it has poor long-term prognosis because of insidious onset and high risk of recurrence. TACE have proven efficacy in controlling unresectable liver metastasis [2,3]. But the efficacy was heterogeneous and influenced by the blood supply. Here, we reported a new chemoembolization strategy for hypovascular liver metastases. Pickering emulsion utilizes solid particles alone as stabilizers, which accumulate at the interface between oil and water phase and reduce the possibility of emulsion coalescence [4]. Marcus et al. reported the stable DEB emulsions with Lipiodol™ and Dox that are suitable for application in TACE procedures, which potentially combine the advantages of portal vein filling observed with cTACE with the sustained drug delivery obtained

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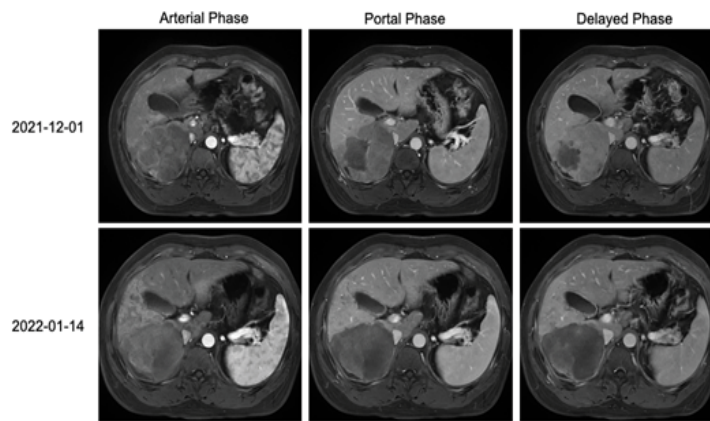


Figure 1: A massive tumor necrosis of submandibular gland carcinoma liver metastasis.

using DEB-TACE [6]. Here, we introduced the significant efficacy of the novel lipiodol emulsion with blank microsphere for hypovascular liver metastases. Further cohort study of this promising combined technology is warranted.

Conclusion

Lipiodol emulsions with blank microspheres could be stable and efficient for hypovascular liver metastases.

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