

Chemo – Embolization for Liver

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Introduction

- Chemoembolization is being used with increasing frequency in the treatment of solid hepatic tumors such as Hepatocellular Carcinoma (HCC) & rare Cholangiocellular Carcinoma (CCC)
- This procedure is rapidly gaining favor over other nonsurgical alternatives.
- Patients with unresectable liver cancer have confirmed the survival benefit has improved but is still considered palliative option.

Introduction Cont..

- HCC and CCC comprise the overwhelming majority of primary malignant hepatic neoplasms.
- Secondary or metastatic hepatic neoplasms are especially common owing to the blood filtration function of the liver.
- Both HCC and CCC are slow-growing tumors but majority of patients are unresectable at presentation.

Hepatocellular Carcinoma (HCC)

- Most common primary malignant tumor of the liver
- Asia and Japan > United States
- Etiology : Cirrhosis, Hepatitis B and C virus, Alcohol, Aflatoxin B₁
- Tendency for Hematogenous spread and invasion of portal and hepatic veins.
- Tumor marker : Alpha – Feto protein

Introduction Cont..

- Survival ranges from a short two months for patients with adenocarcinoma of unknown primary to a maximum median survival of 15 months for colon metastases.
- Carcinoid patients in particular, have very slow disease progression and despite the presence of liver metastases may survive for years.
- Survival for unresectable disease from hepatocellular carcinoma, cholangiocarcinoma, and metastases from pancreatic, breast cancer, and melanoma are between 4 and 9 months.

Introduction Cont..

- Disappointing results coupled with the poor response of HCC to traditional chemotherapy have led to the development of a variety of nonsurgical techniques for the treatment of hepatic neoplasms.
- Such techniques are generally divided into transarterial interventions versus percutaneous ones.

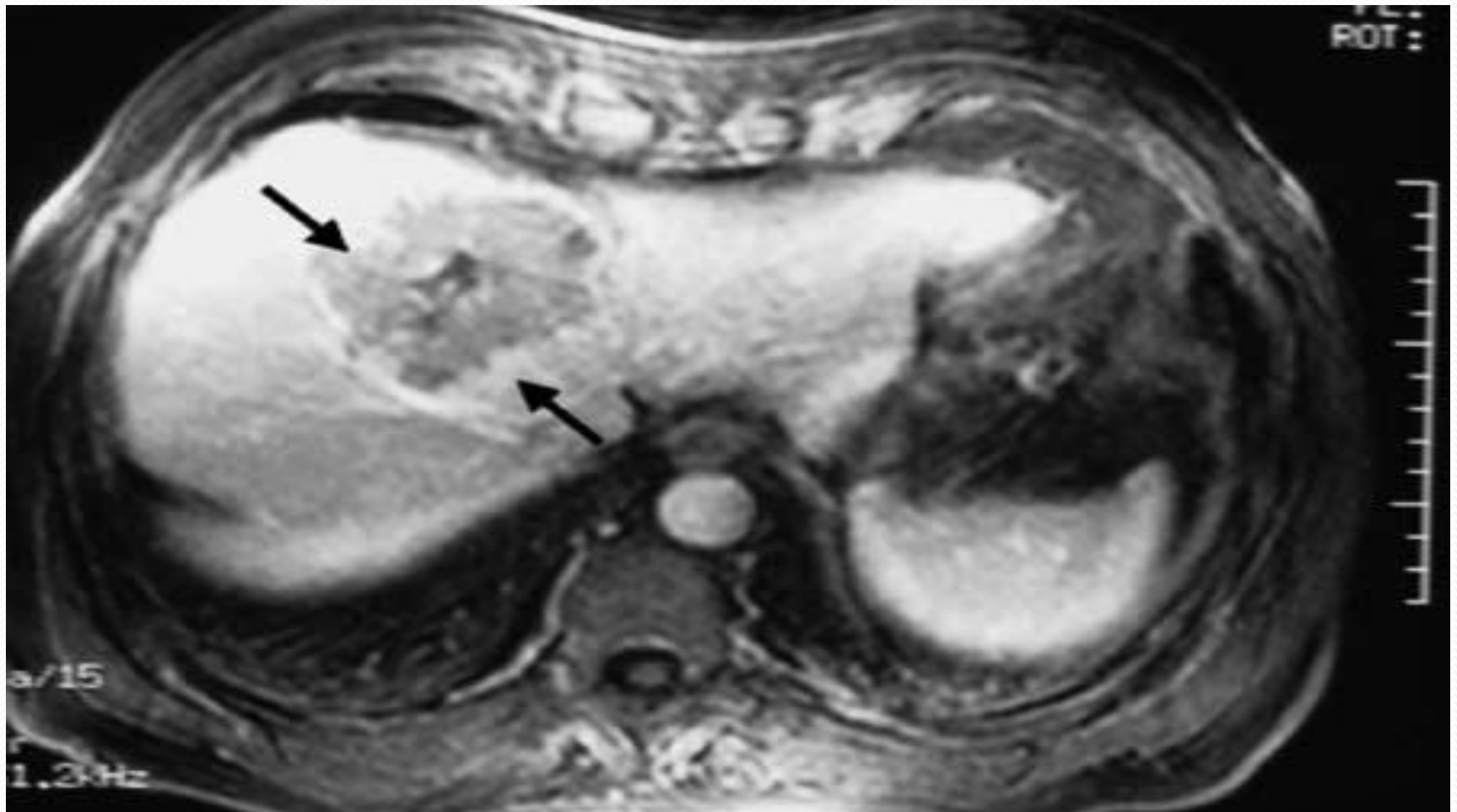
Transarterial Chemoembolism (TACE)

- Transarterial chemoembolization (TACE) has become the most popular locoregional technique for the treatment of unresectable HCC.
- Data show such patients who receive TACE have a longer survival and/or better response than those receiving blunt transarterial embolization (TAE) only with Lipiodol, Gelfoam, or particles.

Patient Selection and Preparation

- TACE should be reserved for patients who are not surgical candidates.
- This is the only absolute contraindication to TACE.
- Prior to TACE all patients should undergo a MRI of the liver, preferably with perfusion/diffusion sequences

MRI Liver



Patient Selection and Preparation

Cont..

- Patients are premedicated depending on the tumor histology, renal function, and prior surgical and medical history.
- For example, patients with carcinoid will have to be premedicated with Sandostatin to prevent possible carcinoid crisis after TACE.

Cont..

- Laboratory values should be obtained prior to TACE, including:
 - A comprehensive metabolic panel (NA, K, glucose, creatinine, BUN, total bilirubin, AST, ALT, alkaline phosphatase, albumin, total protein).
 - Hematology panel (hematocrit and/or hemoglobin, white blood cell count, platelet count, coagulation profile (INR, APTT)).
 - And tumor markers (i.e. AFP for HCC, CEA for colon cancer).

Cont..

- These values serve not only to ensure a safer procedure (i.e. normal coagulation) but also to allow for proper follow-up of hepatic and renal function and monitor response (using tumor marker levels).
- Finally, since the procedure is performed under sedation, an 8-h NPO status is required.

Procedure

Step

Objective

- Step 1
 - Step 2
 - Step 3
 - Step 4
 - Step 5
 - Step 6
 - Step 7
- Obtaining arterial access
 - Maintaining arterial access
 - Performing abdominal aortogram
 - Performing selective SMA & Celiac arteiogram
 - Selecting the catheter position
 - Treatment
 - Finishing

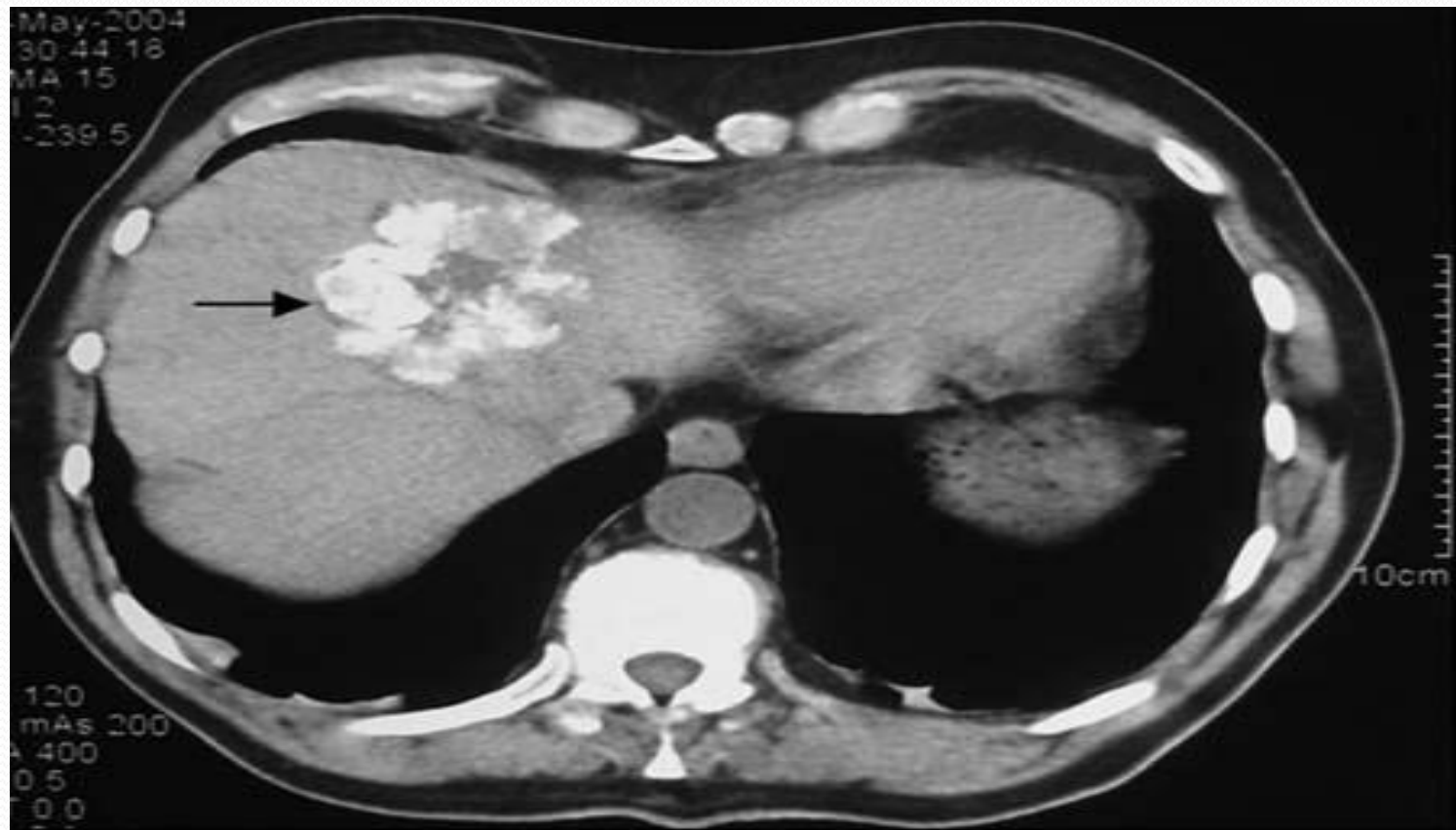
Recovery

- After removal of the common femoral artery vascular sheath and proper hemostasis is achieved, the patient is placed on monitoring for 4–5 h and patient controlled analgesia (PCA) pump and i.v. hydration are initiated.
- Hydration is critical not only because of the patient's NPO status prior to the procedure and possible nausea, but more importantly to mitigate the consequences of a possible tumor lysis syndrome such as acute renal failure.

Recovery Cont..

- CT of the abdomen is obtained to document the distribution of Lipiodol and the degree to which the tumor has taken up the chemoembolization mixture.
- After a 24-h period of observation and symptomatic control, the patient is discharged to home, barring continued significant symptoms.
- More than 90% of TACE patients are discharged to home after this period.
- Discharge Medicine should include a 7 day course of oral antibiotics (i.e. Ciprofloxacin) and P.R.N. pain medication.

CT of Abdomen after TACE



Conclusion

- TACE significantly improves survival of patients with nonresectable HCC compared to nonactive treatment.
- Randomized trial recorded a 1-, 2-and 3-year survival of TACE vs. Patient treated symptomatically. Below are the results:
 - TACE : 82% , 63% and 29%
 - Patient treated symp : 63% , 27% , 17%



Thank You.