

Appendix 1

Transcatheter arterial chemoembolization (TACE) procedure

The procedure was performed under digital subtraction angiography guidance using a Philips Allura Xper FD20 system. After local anesthesia, the right femoral artery was punctured using the modified Seldinger technique, and a 5-F catheter sheath was inserted. A catheter was advanced selectively into the celiac trunk or common hepatic artery via the abdominal aorta. Following hepatic arteriography to identify the tumor's arterial supply, a 2.0–2.4 F microcatheter was used for super-selective catheterization to minimize damage to normal liver tissue.

The chemotherapeutic agent—either epirubicin (30 mg) or oxaliplatin (100 mg)—was mixed with iodized oil (5–20 mL) to create an emulsion, which was injected based on tumor burden. Further embolization using blank microspheres (100–300 μm) was performed until stasis or significant slowing of the tumor-feeding artery was observed on angiography.

Hepatic arterial infusion chemotherapy (HAIC) procedure

Following TACE, once the catheter tip was confirmed to be in an appropriate position within the common hepatic artery or the main trunk of the left or right hepatic artery, it was secured in place. A 20 mL saline solution containing 2,000 IU of heparin was flushed through the catheter to prevent thrombosis. HAIC was typically initiated within 24 hours post-TACE, using an modified FOLFOX regimen [oxaliplatin, calcium folinate, and 5-fluorouracil (5-FU)] delivered via syringe pump as follows:

- ❖ Oxaliplatin: 130 mg/m^2 via hepatic artery infusion over 3 hours on day 1;
- ❖ Leucovorin (calcium folinate): 200 mg/m^2 via hepatic artery starting immediately after oxaliplatin and completed within 3–5 hours on day 1;
- ❖ 5-FU: 400 mg/m^2 as a bolus injection on day 1, followed by a continuous 24-hour infusion of 3,200 mg/m^2 via hepatic artery.

The entire HAIC procedure lasted approximately 24 hours. Drug administration was controlled using a precision syringe pump to ensure consistent delivery. Standard supportive care was provided during chemotherapy, including antiemetics (e.g., 5-HT₃ receptor antagonists), hepatoprotective agents, analgesics, and intravenous fluids as needed. Upon completion of the infusion, the catheter was removed, and hemostasis was achieved via 30 minutes of compression. The affected limb was immobilized 24 hours to reduce the risk of complications.