

## **CT-guided preoperative localization of liver metastasis of colorectal cancer using metal clips - a cheaper and more efficient way to reduce morbidity and residual lesions**

Erich Frank Vater Santos (A.C. Carmago Cancer Center, Brazil), Chiang Jeng Tyng (A.C. Carmago Cancer Center, Brazil), Almir Galvão Vieira Bittencourt (A.C. Carmago Cancer Center, Brazil), Gustavo Coelho Dias (A.C. Carmago Cancer Center, Brazil), Roger Marquez Luz (A.C. Carmago Cancer Center, Brazil), Paula Nicole Vieira Barbosa (A.C. Carmago Cancer Center, Brazil), Luis Henrique Schiavon (A.C. Carmago Cancer Center, Brazil).

**BACKGROUND:** The liver is one of the main sites of spread of colorectal cancer, with metastases responsible for most deaths. Surgical resection, chemotherapy, ablative techniques and the combination of them are therapeutic options for these lesions. Neoadjuvant chemotherapy has assumed an important role prior to resection, including turning unresectable lesions in resectable. However, after it, the intraoperative localization of these lesions may become a challenge.

**HYPOTHESIS:** CT-guided positioning of metal clips in localization of liver metastasis of colorectal cancer before neoadjuvant chemotherapy.

**METHODS:** After multidisciplinary discussion, three patients were selected to perform preoperative marking of liver metastases using metal clips, guided by CT scan. After application of the consent form, were introduced two metal clips Mackenzie-Diener stretched manually within the lesions, using coaxial needle. Another CT scan was performed after neoadjuvant chemotherapy, to evaluate the therapeutic response, confirming the location of the clips and planning the surgery. In surgery, the metal clips were located using intraoperative ultrasonography.

**RESULTS:** Some researchers describe the use of microcoils in preoperative marking of liver metastases. However, these are expensive and unavailable devices in many services. The main purpose of the marking by metal clips is to turn the intraoperative identification cheaper, easier and safer, significantly reducing the time and morbidity of surgical procedure as well as the possibility of any residual lesions.