Submucosal Lipiodol Injection to Guide Radiotherapy for Esophageal Cancer

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Abstract

Radiotherapy for esophageal cancer relies on cross-sectional imaging to identify the entire extent of tumor. Rarely, the exact limits of the tumor may be radiologically occult. Lipiodol is a contrast agent which has been used successfully to mark cancers of the bladder and lung for radiotherapy and surgical resection. We report a patient with an adenocarcinoma of the gastroesophageal junction with tiny tumor implants extending proximally along the length of the esophagus, which were not visiblbwb$ wit!
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had significant limitations [8]. Lipiodol has the distinct advantage of persisting in tissue for prolonged periods, allowing marking and treatment to proceed at different times.

Complications following lipiodol use are very rare, and almost exclusively limited to TACE. These include acute liver failure, cerebral embolism and adult respiratory distress syndrome, and are specifically related to systemic embolization in this setting [9-11]. Animal studies on the intraperitoneal effects of lipiodol suggest a theoretical risk of local inflammation in the event of a transmural injection, but this has never been reported clinically [12]. Our patient did not develop any complications.

We find that endoscopic lipiodol injection can be a useful option to help with radiotherapy planning in the infrequent event that cross-sectional imaging alone is unable to identify the entire extent of an esophageal malignancy. The advantages of lipiodol include simplicity, minimal morbidity, and reliable persistence in tissue. Our case also highlights how an active collaboration between the endoscopist and the radiation oncologist can greatly facilitate the logistics of treatment planning.

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