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USE OF ⁹⁰YTTRIUM GLASS MICROSPHERES (THERASPHERE) FOR THE TREATMENT OF UNRESECTABLE HEPATOCELLULAR CARCINOMA IN A HIV+ LYMPHOPENIC PATIENT

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BACKGROUND-AIM

In recent years, transarterial radioembolization (RE) with ⁹⁰Y-microspheres has emerged as a safe and effective treatment for unresectable primary and secondary liver malignancies. In particular, it has shown comparable or improved results in terms of survival, time-to-progression and toxicity with respect to chemoembolization and turned out to be feasible also in advanced patients with portal vein thrombosis. The risk of complications induced by this procedure is acceptable when patients are adequately selected, but some acute and late side effects have been described: among them, lymphopenia of variable severity occurs in up to 75% of cases, between few days and three months after treatment, probably due to bone marrow suppression. Here we present an interesting case in which, for the first time to our knowledge, RE with ⁹⁰Y-microspheres was performed in a HCC patient with good liver function but HIV/HCV co-infection and severe lymphopenia.

METHODS

The patient was a 54-year-old white male, HCV- and HIV-positive, with a single lesion (48 x 44 mm) in the fourth hepatic segment, highly suspicious for HCC at CT scan, then confirmed by magnetic resonance. The presence of portal vein thrombosis with portal hypertension contraindicated any other loco-regional treatment. Liver function was good, with normal levels of AST/ALT, total bilirubin less than 2mg/dl, normal serum albumin values, no signs of ascites and no significant increase in INR. On the other hand, lymphocytes count was quite troubling (400-500 lymphocytes per microliter), considering the risk of treatment-induced lymphopenia. Anyway, in agreement with the patient and his infectivologist, it was decided to proceed. Pre-treatment evaluation including a celiac angiogram (to analyze the hepatic arterial anatomy and to exclude aberrant vasculature) and a ^{99m}Tc-macroaggregated albumin SPECT scan (to evaluate lung and visceral shunting) was performed and 3.39 GBq of ⁹⁰Yttrium glass microspheres (TheraSphere) was then injected with superselective catheterization of the left hepatic artery. There were no procedural complications and a PET/CT scan performed the day after the procedure confirmed the presence of significant uptake of the radiopharmaceutical in the target lesion.

RESULTS

Treatment was well tolerated by the patient. Increased bilirubin levels (2.89 mg/dl) were observed two days after RE but, within a week, pre-treatment values were restored. No other signs of liver toxicity emerged. As expected, a further decrease in lymphocytes count was observed, till 200 per microliter, but no infections or any other clinical problem took place. A preliminary evaluation of the results of the procedure was obtained by means of a CT scan a month after treatment: images showed no variations in lesion size but a significant reduction in intralesional enhancement.

CONCLUSION

This report confirms that transarterial RE with ⁹⁰Y-microspheres is a well-tolerated treatment for HCC patients not candidable to other loco-regional therapies and, above all, shows that this procedure appears to be safe to use also in patients with severe lymphopenia.