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Introduction/Justification: Crossed fused renal ectopia is a rare congenital anomaly resulting from embryological alterations, in which the ectopic kidney is contralateral to the insertion of its ureter into the bladder. This condition is generally asymptomatic, however, it is associated with renal complications and is usually found incidentally in radiological and molecular imaging studies. There are few reports in the literature demonstrating the combined results of molecular imaging and hybrid studies of this condition. This study aims to demonstrate the findings of static renal scintigraphy with 99mTc-DMSA, including SPECT/CT images, and dynamic renal scintigraphy with 99mTc-DTPA in a patient with crossed fused renal ectopia. **Report:** A 54-year-old female patient was diagnosed with stage IVa squamous cell carcinoma of the cervix causing right hydronephrosis due to extrinsic obstruction, requiring the placement of a double-J catheter. During the investigation, the patient was submitted to renal scintigraphy with 99mTc-DMSA, with SPECT/CT images, and dynamic renal scintigraphy with 99mTc-DTPA. Static images were obtained in the anterior, posterior, anterior and posterior obliques, and lateral abdominal projections and SPECT/CT images after 3 hours of intravenous injection of 99mTc-DMSA. A left ectopic kidney fused to the right kidney was observed, located to the right of the midline. Tubular function was normal in the left kidney and markedly decreased in the right kidney. Bilateral renal scars were detected. After 5 days, sequential images were acquired at intervals of 2 seconds for 1 minute and every 15 seconds for 25 minutes, in the anterior and posterior abdominal projections, immediately after intravenous injection of 99mTc-DTPA, with additional images after furosemide intravenous injection. Markedly decreased glomerular function was observed in the right kidney, and normal function in the left kidney, with signs of crossed fused renal ectopia (left ectopic kidney) and pyelocalyceal dilation on the right, with obstructive pattern. **Conclusion:** Crossed fused renal ectopia is a rare condition. Scintigraphy images with 99mTc-DMSA and 99mTc-DTPA allow accurate evaluation of the various functional alterations of the kidneys resulting from this anomaly. Obtaining SPECT/CT images with 99mTc-DMSA contributes to the good correlation between functional and anatomical changes of the disease. 99mTc-DMSA and 99mTc-DTPA images are also useful for evaluation of tubular and glomerular renal function in crossed fused renal ectopia. Additionally, the anatomical and functional correlation with the hybrid SPECT/CT method enables the evaluation of abnormalities with more precision.

Keywords: 99mTc-DMSA, 99mTc-DTPA, Crossed fused ectopia.

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TREATMENT OF REFRACTORY MULTIPLE MYELOMA WITH PSMA-177LU: A CASE REPORT

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Introduction/Justification: Triple-refractory multiple myeloma (MM) has a poor prognosis. It is a neoplasm with marked genomic heterogeneity, and recently, our group demonstrated marked uptake of 68Ga-PSMA-11 in some patients, suggesting the potential theranostic use of PSMA in selected cases (1). Herein, we report the initial treatment with 177Lu-PSMA in a patient with refractory MM. **Report:** A 76-year-old male patient with IgA/Kappa MM refractory to 6 therapeutic lines, including daratumumab, lenalidomide, and bortezomib, underwent PET/CT with 18F-PSMA-1007, showing marked tracer uptake in multiple osteolytic lesions, several with extensive soft tissue components. A PET/CT with 18F-FDG was also performed, revealing similar findings. A first dose of 7,400 MBq (200 mCi) of 177Lu-PSMA-I&T was administered. The procedure was well tolerated, with slight clinical improvement observed in the week following the infusion. Visual analysis of whole-body scans performed at 21h, 30h, and 7 days demonstrated moderate tracer uptake, lower than that observed with 18F-PSMA-1007. There was slight washout between images at 21h and 30h and moderate/significant washout after 7 days. After 4 weeks, PET/CTs with 18F-PSMA and 18F-FDG were repeated, showing similar findings to the initial scans, with a slight reduction in tracer uptake in some lesions. There was also an increase in the volume of some soft tissue lesions, attributed to post-treatment inflammation. The patient received a second dose of 7,400 MBq (200 mCi) of 177Lu-PSMA-I&T after 6 weeks, and whole-body scans were performed at 2h and 24h, also showing visually lower uptake compared to 18F-PSMA-1007. The patient experienced an intercurrent femoral fracture, limiting mobility for clinical evaluation and subsequent procedures, ultimately leading to their passing after a few days. **Conclusion:** This preliminary report suggests that treatment of MM with 177Lu-PSMA is feasible and well tolerated after 2 initial doses. The uptake of 177Lu-PSMA-I&T was visually lower than that of 18F-PSMA-1007, which does not seem to be solely explained by the different resolution of images obtained from different tracers and equipment. There was a slight clinical and imaging response after the first dose, out of a total of 6 planned. A fracture complication and the severity of the case prevented imaging evaluation after the 2nd dose and further treatment continuation. PSMA-177Lu therapy in MM treatment appears to be safe with an initial favorable response, albeit slight. Studies with complete treatments (6 cycles) and in clinically less severe patients are needed to assess the effectiveness of the procedure.

Keywords: Multiple myeloma, PSMA-177Lu, Theranostic.

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