Functional Evaluation of an Ectopic Supernumerary Kidney in Pelvis

Aylin AKBULUT, Gokhan Koca, Meliha Korkmaz
Department of Nuclear Medicine, Ankara Training and Application Hospital, University of Health Sciences, Turkey

Case Study: Supernumerary kidney is an accessory organ with its own encapsulated parenchyma, blood vessels and ureters, either separated from the normal kidney or connected to it via fibrous tissue and ectopic kidney is a migration abnormality of kidney. Here, we have evaluated a rare case of supernumerary and ectopic kidney with DMSA, MAG3 and also CT fusion of the images. The absolute divided renal function was calculated for each kidney by DMSA. The MAG3 scintigraphy showed no obstruction in the ureteropelvic junction. Furthermore, renogram curve and Tmax and time to ½ values were assessed. Two months after the conventional scintigraphies, the patient was referred to a CT scan and the fusion of DMSA SPECT and CT data was generated on a workstation. The ectopic supernumerary kidney was functioning very well except a small hypoactive area, visible on DMSA, which was possibly a minimal pelvicalyceal dilatation. However, the consequent CT scan did not show any pathologies. It is important to evaluate particularly the complicated or rare cases with multimodality systems with 3D or fusion techniques for accurate diagnosis.

Figure 1. The fusion images of DMSA SPECT to the CT are presented.
Figure 2. The MAG3 scintigraphy is presented, showing the normal perfusion, concentration and excretion of the 3 kidneys