Case Report

Renal Dynamic Scintigraphy as a Sensitive Tool for Detecting Small Volume Urinoma Following Live-Related Renal Transplant

Shubha Gadde Ravindra, Sumit Garg, Rakesh Kumar, Sambit Sagar, Aditi Khurana, Sandeep Aggarwal[1], Siba Narayan Padhi[1], Chekuri Ritwik[1]

Departments of Nuclear Medicine and [1]Surgical Disciplines, AIIMS, New Delhi, India

Abstract

Renal transplant (RT) is the preferred treatment modality in patients with end-stage renal disease (ESRD). However, it is associated with a significant rate of complications. Early diagnosis and management of these complications are essential to prevent graft loss. Herein, we describe a case of a 48-year-old male who developed ESRD due to underlying autosomal-dominant polycystic kidney disease and underwent an RT. A routine renal dynamic scintigraphy (RDS) performed on day 4 posttransplant showed a focal minute area of radiotracer accumulation on the delayed static images raising suspicion for urinoma. However, it was deemed normal considering the normal renogram curve and stable clinical condition of the patient. However, on day 9 posttransplant, in view of clinical deterioration marked by decreasing urine output and rising serum creatinine levels, ultrasonography – kidney, ureter, and bladder (USG-KUB) and a repeat RDS were performed. Although the USG-KUB described a peri-nephric fluid collection, the nature of the collection could not be determined. RDS confirmed that the collection was urinoma. On retrospective analysis, the focal area of increased radiotracer uptake corresponded to the site of initial suspicion, although there was an increase in the size of the same. In experienced hands, RDS thus proves to be a highly sensitive tool for the diagnosis of urinoma, much before the clinical complications set in.

Keywords: *Autosomal-dominant polycystic kidney disease, end-stage renal disease, renal dynamic scan, renal transplant, urinoma*

Introduction

Renal transplant (RT) is now being increasingly performed in patients with end-stage renal disease (ESRD) dependent on hemodialysis. In such patients, RT improves the quality of life and facilitates more prolonged survival.[1] RT is, however, associated with a considerable number of complications that may result in graft loss.[2] The complications of RT may be broadly subdivided into (a) vascular (renal artery and vein stenosis and thrombosis, arteriovenous fistula, and pseudoaneurysms); (b) urologic (urinary obstruction and leak, and peritransplantation fluid collections that include hematoma, seroma, lymphocele, and abscess formation); and (c) nephrogenic (acute tubular necrosis, graft rejections that include hyperacute, acute and chronic, and neoplasm). Early diagnosis and management of these complications are of paramount importance to prevent graft loss and prolong the RTs survival.[3] Noninvasive imaging modalities have become areas of active research and interest in the hope that they can detect these complications early and aid further treatment.[4]

Case Report

A 48-year-old male who developed ESRD as a sequel of autosomal dominant polycystic kidney disease underwent RT from a live-related donor. On postoperative day (POD) 4, a renal dynamic scintigraphy (RDS) [Figure 1] was performed after intravenous injection of 8 millicurie 99 mTc-L, L, ethylenedicysteine (99 mTc-LLEC). Dynamic images were acquired on GE Healthcare Brivo NM615 Gamma Camera for 25 min which showed preserved perfusion and renal cortical function. This was followed by delayed static images up to 2 h which showed adequate clearance. However, a focal minute area of radiotracer accumulation was noted on the delayed static image. In view of the normal renogram curve and stable clinical condition of the patient, this was considered

How to cite this article: Ravindra SG, Garg S, Kumar R, Sagar S, Khurana A, Aggarwal S, *et al.* Renal dynamic scintigraphy as a sensitive tool for detecting small volume urinoma following live-related renal transplant. Indian J Nucl Med 2022;37:172-4.

Address for correspondence:
Dr. Rakesh Kumar, Department of Nuclear Medicine, AIIMS, New Delhi - 110 029, India.
E-mail: rkphulia@yahoo.com

Received: 27-10-2021
Accepted: 01-11-2021
Published: 08-07-2022

Access this article online

Website: www.ijnm.in

DOI: 10.4103/ijnm.ijnm_168_21

Quick Response Code: