

FAILURE TO VISUALIZE A MULTICYSTIC KIDNEY WITH TECHNETIUM 99M-DTPA DOES NOT PRECLUDE RECOVERABLE FUNCTION

Dr. M. A. Taher

ABSTRACT

We present a patient with multicystic left kidney as diagnosed by ultrasonography. 99m Tc-DTPA scintigram showed absent uptake by the left kidney, however, post-operative scan after partial nephrectomy was normal. In this case, absence of 99m Tc-DTPA uptake by the kidney does not necessarily mean that renal function is irreversibly lost in a patient with multiple cysts.

Key words = Multicystic kidney, Renal function, Ultrasonography, Scintigraphy.

INTRODUCTION

In general, the renal uptake of 99m Tc-diethylenetriamine pentaacetic acid (DTPA) is a measure of glomerular filtration rate (GER), and absent uptake is equivalent to non-function. In this report, we describe a patient who had non-visualized left kidney on 99m Tc DTPA scan due to obstruction by multiple cysts, but normal renal function returned after surgical removal of the cysts.

CASE REPORT

A 48 years old male presented with loin tenderness. On physical examination, the left kidney was found enlarged. Abdominal sonogram revealed multiple cysts in the left kidney pressing the left ureter. Other investigations including biochemical tests were all normal except the 99m Tc- DTPA scan which showed absent uptake in the left kidney only. As the right kidney was normal in sonogram and 99m Tc-DTPA scintiscan, surgery on left kidney was planned. Partial nephrectomy was done to remove the cysts. A repeat scintiscan was done when the patient began to recover, it clearly showed bilateral renal activity.

DISCUSSION

This patient demonstrated recoverable kidney function as documented by reversal of absent renal uptake of 99m Tc-DTPA when the cysts were removed. Of interest, Taylor et. al. have described absence of 99m Tc-DMSA (dimercapto succinic acid) uptake in a patient with acute tubular necrosis from ischemia, but normal renal function returned after hemodialysis.¹ Sherman and Blaufox² reported reversal of absent renal uptake of 131 I-orthoiodohippurate in obstructive uropathy when the obstruction was relieved. Quinn and Elder³ presented a patient with very poor uptake of 99m Tc DTPA scan demonstrating only mild renal impairment. Our patient shows recoverable kidney function following removal of multiple cysts and highlights the importance of ultrasonography in renal disease.

REFERENCES

1. Taylor et al. *J Nuclear Medicine* 27: 377-379, 1986
2. Sherman and Blaufox. *Nephron* 25: 82-86, 1980
3. Quinn and Elder, *J Nuclear Medicine* 32: 2273-2274, 1991