Original Article

CROSSED FUSED RENAL ECTOPIA MULTIDETECTOR COMPUTED TOMOGRAPHY STUDY

Sharma V [1], Ramesh Babu C.S *[2], Gupta O.P [3].

[1] Assistant Professor of Anatomy, Muzaffarnagar Medical College, Muzaffarnagar. India.
[*2] Associate Professor of Anatomy, Muzaffarnagar Medical College, Muzaffarnagar, India.
[3] Dr.O.P.Gupta Imaging Center, Sumer Bhawan, Bachcha Park, Meerut, India.

ABSTRACT

Crossed renal ectopia is one of the rarest congenital malformations where a kidney is located on the side opposite to the side of its ureteral insertion into the urinary bladder and is generally fused with the normally located ipsilateral mate. Generally this anomaly remains as a silent clinical entity and is incidentally detected during evaluation for other conditions. We report here three such cases of crossed fused renal ectopia detected by multidetector row contrast enhanced computed tomography. Crossed fused renal ectopia of inferior type was observed in a male on the right side with the ureter of the ectopic left kidney crossing the midline. In two female patients, L-shaped or tandem kidney was noted, one on the right and another on the left side. Over all in two cases the left kidney was ectopic and in one the right kidney. No renal pathologies like urinary tract infection, nephrolithiasis or hematuria were found in our patients.

KEYWORDS: Crossed fused renal ectopia, Tandem kidney, L-shaped kidney, Renal ectopia, Multidetector computed tomography, Renal fusion anomaly.

Address for Correspondence: C.S.Ramesh Babu, Associate Professor of Anatomy, Muzaffarnagar Medical College, N.H.58, Opp. Beghrajpur Industrial Area, Muzaffarnagar (UP) India. Mobile: +91-9897249202. **E-Mail:** csrameshb@gmail.com

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INTRODUCTION

Congenital malformations of the urinary system are not uncommon and crossed renal ectopia (CRE) is one of the rare positional and fusion anomalies of the kidney. Crossed renal ectopia occurs when a kidney is located on the side opposite from which its ureter enter into the urinary bladder [1]. In about 90 % of cases, the crossed ectopic kidney fuses with its ipsilateral mate. Crossed fused renal ectopia is the second most common renal fusion anomaly after the horse-shoe kidney with an estimated incidence of 1: 2000 to 1: 7500 autopsies.[1,2]. The prevalence of the crossed renal ectopia with fusion was estimated to be 1 in 1000 live births [3]. In a review of 400 children evaluated by DMSA renal scan, crossed fused renal ectopia was found in 7 cases (1.75 %) [4]. In an another retrospective review, the incidence of CRE was reported as 1 out of 3078 CT scans and horse-shoe kidney in 1 out of 474 scans [5]. The true incidence of this anomaly is not known because a large majority of the patients having this anomaly remain asymptomatic and undetected.

Though CRE remains as a silent entity, in some cases it may be associated with recurrent urinary tract infections, nephrolithiasis, vesicoureteral reflux, uretero-pelvic junction obstruction, hydronephrosis and multicystic renal dysplasia and hence its importance to nephrologists, surgeons and radiologists. Moreover, the condition may also be associated with congenital malformations affecting skeletal, cardiovascular,