

CT

:

1

(Precaval right renal artery)

CT

CT

(endopyelotomy)

(workstation) (AW 4.1 on HP X 4000, General Electric, Milwaukee, WI) (maximal intensity projection MIP) 3

40%

가

CT

(1).

(main artery)

(axial oblique) MIP

(gonadal vein)

(accessory artery)

가

(Fig. 1A).

5%

4 cm

(2-4).

(precaval renal artery)

(coronal oblique) MIP

3

(2-5),

(Fig. 1B).

CT

6 cm

(accessory renal

1

artery)

(upper pole)

(Fig. 1C). CT

가

60

가

CT

CT

CT (Light

CT,

CT

Speed Ultra, General Electric, Milwaukee, WI)

(Iomeprol; Bracco, Milano,

(6).

3

Italy) 150 ml

3 ml

CT

40%

70

8 × 1.25 mm,

(col-

(retroperitoneal approach)

limation) 1.25 mm,

5 mm,

13.5

mm/rotation,

1.35, 1

(rotation time)

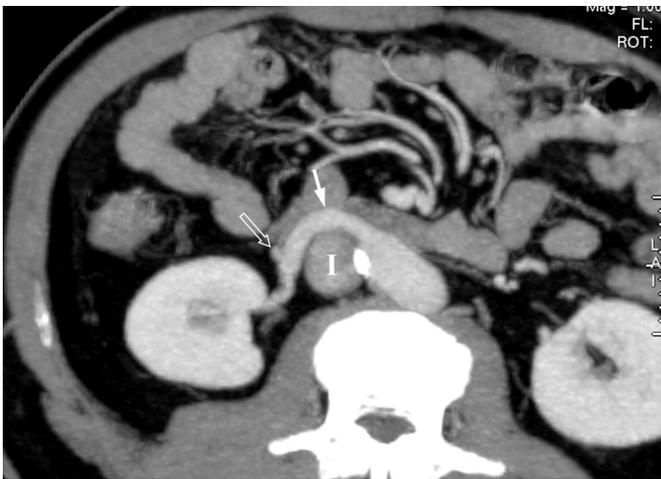
(4, 7).

0.8

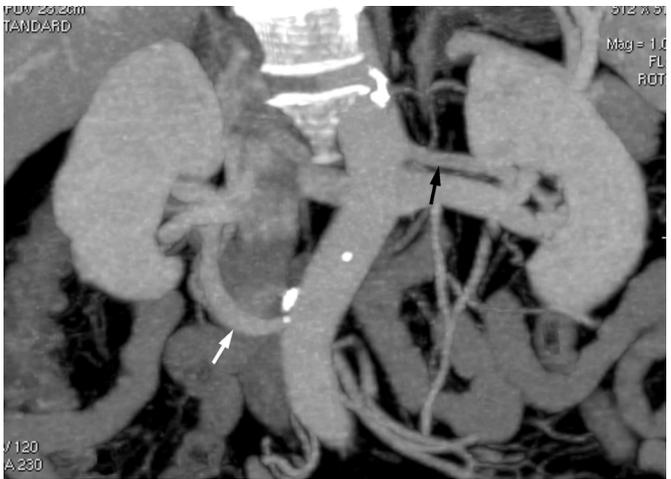
1.25 mm

: CT

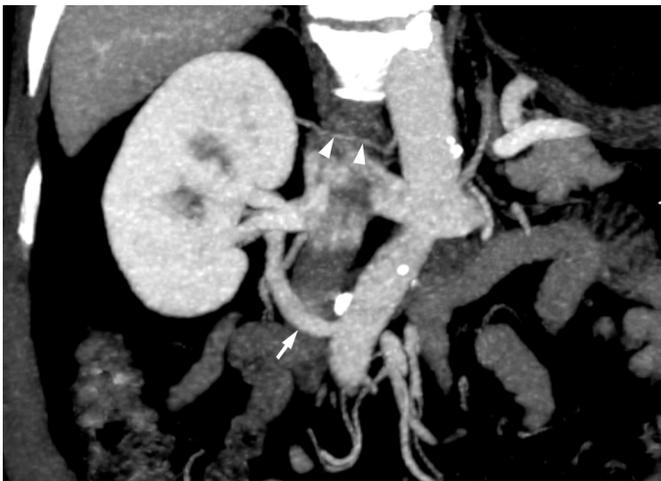
(4). 0.8% (2). 9
 (3). 5%가 가 (8), Yeh (4)
 Yeh (4), 186 가 48 18 가
 (lower pole) 가
 CT 3
 6%
 (adrenal artery) (horseshoe kidney)
 (2). 5 (nephro - (5).
 genic blastema) 8 (4). Meng (2)
 22 - 33% 2%
 (4). Meng (2)
 3 (bifid renal
 가 pelvis)가
 (2, 5). 가 8 가



A



B



C

Fig. 1. A. The axial oblique MIP image of contrast enhanced CT scan shows right renal artery (arrow) arising from abdominal aorta and passing anterior to the inferior vena cava. The right gonadal vein (open arrow) is located anterior to the precaval right renal artery. (I: Inferior vena cava)
B. The coronal oblique MIP image well demonstrates the precaval right renal artery (white arrow) arising from abdominal aorta 4cm below the left renal artery (black arrow) origin.
C. The coronal oblique MIP image shows an accessory right renal artery (arrowheads) supplying the superior pole of the right kidney, which is located 6 cm above the precaval right renal artery (arrow) arising from abdominal aorta.

CT
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1. Kadir S. *Atlas of normal and variant angiographic anatomy*. Philadelphia: Saunders, 1991:387-428
2. Meng MV, Yeh BM, Breiman RS, Schwartz BF, Coakley FV, Stoller ML. Precaval right renal artery: description and embryologic origin. *Urology* 2002;60:402-405
3. Petit P, Chagnaud C, Champsaur P, Faure F. Precaval right renal artery: have you seen this? *AJR Am J Roentgenol* 1997;169:317-318
4. Yeh BM, Coakley FV, Meng MV, Breiman RS, Stoller ML.

- Precaval right renal arteries: prevalence and morphologic associations at spiral CT. *Radiology* 2004;230:429-433
5. Cochetoux B, Mounier-Vehier C, Gaxotte V, McFadden EP, Francke JP, Beregi JP. Rare variations in renal anatomy and blood supply: CT appearances and embryological background. A pictorial essay. *Eur Radiol* 2001;11:779-786
 6. Kawamoto S, Montgomery RA, Lawler LP, Horton KM, Fishman EK. Multidetector CT angiography for preoperative evaluation of living laparoscopic kidney donors. *AJR Am J Roentgenol* 2003;180:1633-1638
 7. Sampaio FJ. Renal anatomy: endourologic considerations. *Urol Clin North Am* 2000;27:585-607
 8. Lee JY, Chung JW, Kim SH, Cho SW, Park JH. Proximal ureter obstruction caused by a lower polar renal artery: demonstration with spiral CT angiography. *J Comput Assist Tomogr* 1997;21:641-642

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Incidental Finding of a Precaval Right Renal Artery on CT: A Case Report¹

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The right renal artery passing anterior to the inferior vena cava is a rare variant of the normal renal arterial anatomy, and identifying this anomaly is important for the planning of minimally invasive renal surgery. The presence of this precaval right renal artery was detected on the contrast-enhanced CT scan by identifying the right renal artery passing anterior to the inferior vena cava. We report here on a case of a precaval right renal artery as a main supplying artery, and this was incidentally found on CT.

Index words : Renal arteries
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Kidney, blood supply
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