

Case Report

Multiple bilateral hypertrophied columns of Bertin

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Although hypertrophied columns of Bertin (HCBs) are a frequently occurring anatomic variant of the kidney, multiple bilateral forms are rare. We share the present case because the diagnosis is simple using intravenous contrast-enhanced computed tomography findings on late-phase images.

Keywords: Multiple bilateral, hypertrophied columns of Bertin (HCBs)

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INTRODUCTION

Hypertrophied columns of Bertin (HCBs) are a frequent anatomic variant of the kidney (Yeh et al., 1992). Lafortune et al. reported sonographic findings of HCBs in 47% of in vivo images and 51% of cadaver images; additionally, half of these nodular-like masses were more than 1 cm in diameter. The left kidney was more frequently involved than the right kidney, at a ratio of 2:1. HCBs could be confirmed by showing that their enhancement (perfusion) was similar to that of the surrounding renal parenchyma on contrast-enhanced computed tomography (CT), magnetic resonance imaging (MRI), or contrast-enhanced sonography (Lafortune et al., 1986; Bhatt et al., 2007; Tynski and MacLennan, 2005). A few kidneys that contained HCBs had two or more masses (Lafortune et al., 1986). Thus far, no case in the medical literature has displayed multiple bilateral HCBs.

CASE REPORT

A 42-year-old female patient complained of recurrent cystitis attacks. During the sonographic examination, a mass-like lesion was shown to protrude in the renal pelvis at the right kidney. Thus, CT was recommended using pre- and post- (including late-phase scanning) intravenous contrast enhancement. CT showed multiple mass-like renal lesions that were bilaterally projected to the renal pelvis and that were isodense with the renal cortex. Additionally, these lesions showed no demarcation and a disorganized kidney center in pre- and post-contrast CT slices (Figure 1A-F). Her blood and urine laboratory findings were within normal limits.

The mass-like lesions were diagnosed as multiple bilateral HCBs with no need for further investigation or treatment.

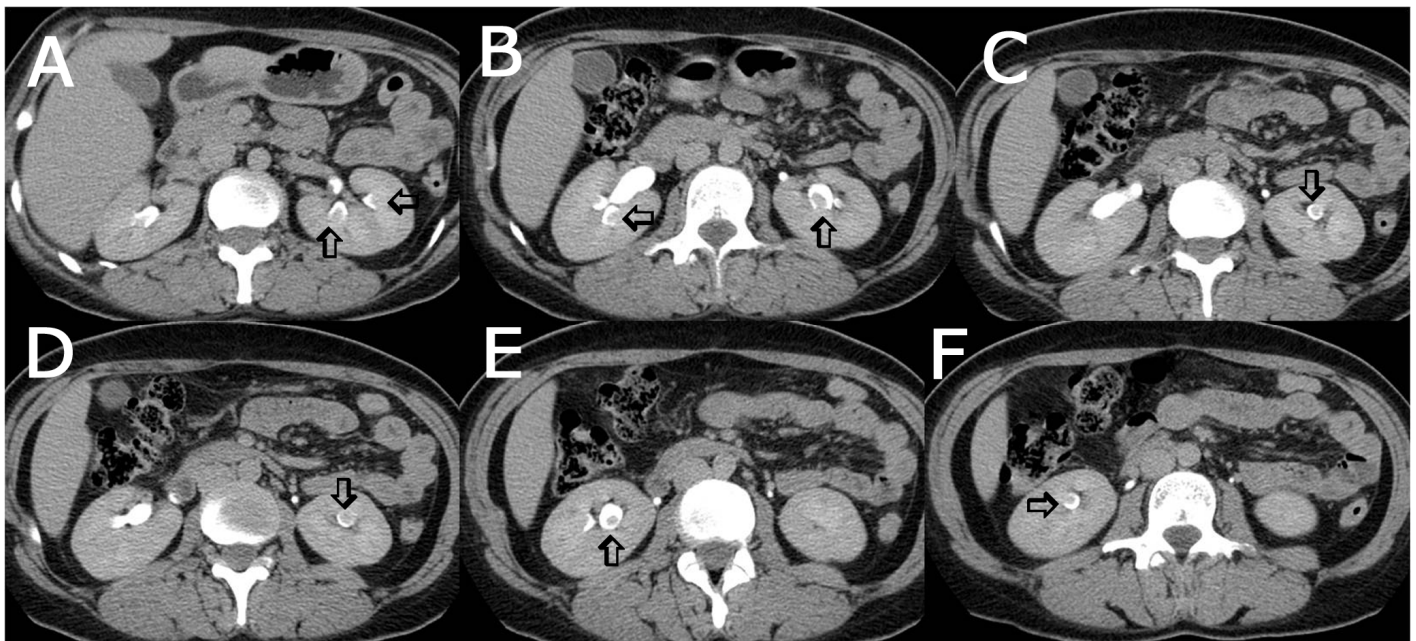


Figure 1A-F. Axial, sequential, cross-sectional computed tomography with intravenous contrast enhancement in late-phase images showing multiple, bilateral, round-shaped, mass-like lesions protruding the renal collecting system (blank arrows). These lesions in late-phase images show the same enhancement pattern as the renal cortex and medulla, supporting hypertrophied columns of Bertin.

DISCUSSION

Sonographic findings of Bertin columns are isoechoic with the cortex and maintain the normal renal contour observed with HCBs. However, renal cellular carcinoma, transitional cell carcinoma or other (benign or malignant) renal masses are well demarcated and show echo patterns different from those of the normal kidney cortex and medulla.

Because the histological texture of Bertin columns is similar to that of renal tissue, CT findings can be adopted. The differential diagnosis of the mass-like lesion of the current case can be made according to the aforementioned criteria of pre- and post-contrast CT findings. CT findings revealed isodense intense signals in the renal cortex; after intravenous contrast enhancement, enhanced isodense signals in the cortex and medulla were observed specifically in late-phase CT slices. Additionally, this lesion suggested an HCB due to isodense signals in the renal cortex, the lack of demarcation and bilaterality being multiplied. Thus, we required no invasive method to approve this diagnostic decision. All radiologists must be aware of these abovementioned findings and should protect their patients from unnecessary interventional methods.

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The English in this document has been checked by at least two professional editors, both native speakers of English. For a certificate, please see: <http://www.textcheck.com/certificate/Rjmb77>

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