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LETTER TO THE EDITOR

Clinical characteristics of renal anastomotic hemangioma

Kai Huang

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Abstract

In this editorial, we comment on the article by Chen and Cai. We focus on renal anastomotic hemangioma, which is a rare benign hemangiomatous disease. This disease has unique clinical characteristics. Its biological behavior is benign, but its imaging results are similar to those of renal cancer. Renal anastomotic hemangioma is easy to misdiagnose and can lead to unnecessary radical nephrectomy. Therefore, urologists need a better understanding of this disease. We believe that patients with renal anastomotic hemangioma should receive individualized diagnosis and treatment to avoid overtreatment.

Key Words: Kidney Neoplasms; Anastomosing hemangioma; human; Disease Attributes; Diagnosis

Core Tip: Renal anastomotic hemangioma is a rare benign disease. It is a challenge that making an accurate diagnosis before treatment. The precise treatment can protect the kidney function of patients as much as possible, which is meaningful to guarantee the quality of patient's life.

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TO THE EDITOR

Renal anastomotic hemangioma (RAH) was defined by Montgomery and Epstein in 2009[1]. This is a rare type of benign vasogenic kidney tumor. Because this disease has

no characteristic appearance on imaging, urologists usually misdiagnose it as renal cell carcinoma and prescribe an overly aggressive radical nephrectomy. This procedure leads to loss of the patient's kidney, which otherwise could have been saved. Accurately diagnosing this disease is a challenge for urologists. However, choosing the right treatment can better protect patients' kidney function and ensure their quality of life.

RENAL ANASTOMOTIC HEMANGIOMA

For treatment, it is necessary to understand the characteristics of RAH. In nearly half of the patients, RAH is secondary to end-stage renal disease and is mostly unilateral. At present, imaging examinations are mainly performed by computed tomography, magnetic resonance imaging or contrast-enhanced ultrasound. Unfortunately, the imaging appearance of RAH is similar to that of renal cell carcinoma. Although RAH is a benign tumor, the preoperative diagnosis is difficult, and the diagnosis is still based on the pathological results after surgery[2]. Therefore, we are considering whether it is possible to adopt the method of nuclide imaging for diagnosis of this disease. We can even establish a database by collecting more RAH image data and analyzing and comparing RAH patients' imaging data with those of patients with other diseases, such as renal cell carcinoma. Using computer-based methods or artificial intelligence will help urologists accurately diagnose RAH.

After reading the article published by Chen and Cai[3], I wanted to add this comment to this editorial: They reported a rare case of an RAH patient whose lesion was located near the surgical site 3 years after left partial nephrectomy. The results of the second operation confirmed that his disease was RAH. I believe this may be related to the previous partial nephrectomy that the patient underwent 3 years earlier. After all, the kidney is sutured and reconstructed during partial nephrectomy, which changes its anatomical structure and local blood supply. However, this is just my opinion. More research data on this disease are needed to prove this point in the future. The RAH is generally a gray-red solid, unenveloped mass accompanied by bleeding. Under the microscope, anastomosed sinusoidal structures and monolayered vascular endothelial cells can be observed. Immunohistochemical staining of the RAH reveals CD31, CD34[4], and SMA expression and a low Ki67 index[5]. For patients in which it is difficult to distinguish kidney cancer from RAH or other rare benign tumors by imaging, renal needle biopsy can be considered to obtain an accurate diagnosis and avoid unnecessary surgery. Although biopsy may theoretically cause cancer cell implantation and metastasis through the needle path, the incidence of such a situation is extremely low, and biopsy still facilitates a definitive diagnosis of the disease. However, biopsy has limitations, such as discomfort, possible bleeding, hematoma caused by puncture[6], and a smaller obtained specimen, which may lead to misdiagnosis. Patients need to be informed of these possible situations and to be communicated with in order to choose the appropriate examination method. Partial nephrectomy may also be first considered for RAH when the diagnosis is not clear. During the operation, a rapid frozen pathological examination is performed. The further step of radical nephrectomy is then determined according to the frozen pathological results. Although the operation time is increased, it is still worthwhile to protect the kidney function of these patients.

CONCLUSION

In conclusion, RAH is an extremely rare benign renal vascular disease. A better understanding of the clinical characteristics of RAH is helpful for diagnosis of this disease and prevention of overtreatment.

FOOTNOTES

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