

## SYMPTOMATIC ACCESSORY SPLEEN IN THE VESICAL RECTAL FOSSA: A CASE REPORT WITH LITERATURE REVIEWS

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### ABSTRACT

The accessory spleen refers to one or more organs which is besides the normal spleen and have the same structure and function as the spleen. The accessory spleen is most often located in the splenic hilum or adjacent to the tail of the pancreas, but it can also be located in the perisplenic vessels, spleen-stomach ligaments and spleen-kidney ligaments, rarely in the pancreatic tissue. Accessory spleen from the vesical rectal fossa has not been reported yet. The patient was admitted to our hospital because of frequent urination, urgency, weakness of urine and perineal pain. After admission, a 4.2\*2.1\*3.2 mass was found in the vesico rectal fossa. Posterior transrectal ultrasound biops, the pathological examination results showed large amount of lymphocytes, mononuclear cells, interstitial hyperemia, hemorrhage. Current evidence for cancer diagnosis is inadequate, consider the accessory spleen. Posterior the patient has been underwent the "Lap-pelvic tumor resection". Postoperative pathological diagnosis: accessory spleen. The patient recovered well after surgery and was cured and discharged.

**Keywords:** Accessory spleen, vesical rectal fossa, tumor, misdiagnosis.

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### Introduction

The accessory spleen refers to a tissue that has a similar structure and the same function to that of the spleen except the normal spleen. It can occur in different parts of the human body, mostly in the splenic lienis, omentum majus, a few in the spleen and colon ligament, tail of pancreas, left ovary and other places, the accessory spleen in the vesical rectal fossa is rarely reported. It is more common in single occurrences. It is a common abnormality with no disease signs. Most of them only need to be followed up without surgical resection. However, clinical misdiagnosis of accessory spleen for other diseases and unnecessary surgery often occurs. In this case report, we report a case of accessory spleen in vesical rectal fossa, in order to provide some clinical reference for accessory spleen.

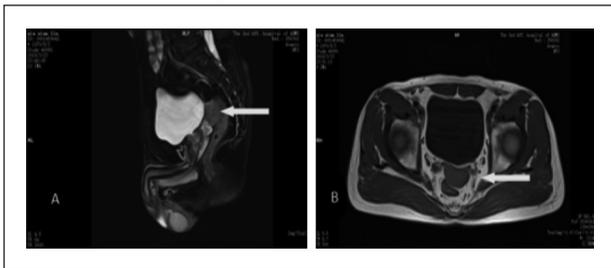
### Case report

The patient, a 48-year-old man, began to have frequent urination, urgency, weakness of urination and mild perineal pain without obvious inducement

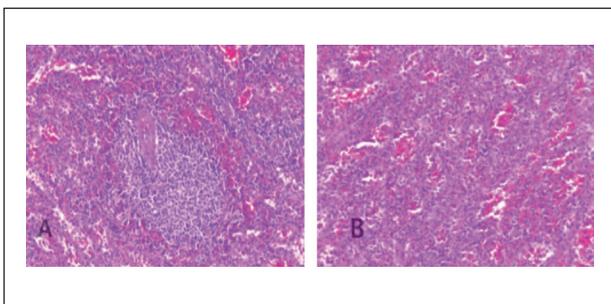
1 year ago. MRI examination was performed in the Central Hospital of the local county, the report indicated that there was a mass in the vesical rectal fossa and no special treatment was given. Later, the patient came to our hospital for further treatment and planned to be hospitalized with "pelvic space occupying" income. The patient had a history of splenectomy, hypertension for more than four years, self-administered nifedipine and the hypertension was well controlled. Other medical history and family history were denied. After admission, the test tips: TPSA0.95ng/ml, FPSA0.34ng/ml, blood routine: red blood cell count, hemoglobin was lower than normal, carcinoembryonic antigen (CEA) was normal, liver and kidney function was normal. Posterior MR examination showed that the bladder was still full and the wall was not thick. There was a signal of mass between the bladder, rectum and seminal vesicle, showing long T1 and other T2 signals. The signal was uniform, about 4.2\*2.1\*3.2 cm in size which is near the seminal vesicle gland and rectum.

Slightly enlarged lymph nodes were adjacent to it. There were no obvious space-occupying lesions in the bilateral seminal vesicles, and no obvious hydrocele was found in the pelvic cavity (Fig. 1). Transrectal ultrasound biopsy, the pathological examination results showed large amount of lymphocytes, mononuclear cells, interstitial hyperemia, hemorrhage, Current evidence for diagnosis of tumors is inadequate (Fig. 2A). Combined with the patient's clinical manifestations and examination results, consider the pelvic mass (the source of the spleen?). Planned elective surgery to confirm the diagnosis. The patient has been underwent the "Lap-pelvic tumor resection" under general anesthesia. In the vesical rectal fossa, two substantial masses were seen, which were 3.5\*3 cm and 1\*1.2 cm in size, and slightly adhered to the rectum and bladder.

The operation was successful with 100 ml bleeding and no blood transfusion. The specimen will be send to the pathology department for examination after his family seeing it. Postoperative pathological diagnosis: accessory spleen (Fig. 2B). The patient recovered well after surgery and was cured and discharged.



**Figure 1:** The pelvic sagittal plane (Fig. 1A) and the coronal plane (Fig. 1B) MRI Image: The bladder is filled, and a blocky tissue signal is seen between the rectum and the seminal vesicle. The signal is uniform and the size is about 4.2\* 2.1\*3.2cm (As shown by the arrow).



**Figure 2:** Transrectal ultrasound biopsy pathology (Fig. 2A) and postoperative pathology (Fig. 2B): microscopic examination showed massive lymphocytes, monocytes and neutrophil infiltration, interstitial hyperemia, and hemorrhage. Diagnosis is consistent with spleen tissue.

## Discussion

The accessory spleen is a congenital ectopic spleen tissue that is similar to the spleen in function and structure. The incidence of clinical accessory spleen is 10% to 30% [10]. The occurrence of accessory spleen is related to the lack of interstitial cell fusion also may be due to the multi-gene development of the spleen embryo. It can be completely separated from the normal spleen, or connected with connective tissue.

Most of them were located at the splenic lienis or adjacent to the tail of the pancreas, but it may also Located in the spleen blood vessels, spleen and stomach ligaments and spleen and kidney ligaments, rarely found in pancreatic tissue<sup>(2, 11, 12)</sup> the literature also reported that the spleen appe<sup>(3, 4)</sup> but the spleen of the vesical rectal fossa has not been reported. The accessory spleen has the same function as the spleen because of its similar structure to the spleen.

Therefore, when the rupture of spleen, portal hypertension, and benign spleen tumors occur, it is necessary for us to pay attention whether or not the spleen exists and retain it to partially compensate for the immune and blood storage functions after the spleen's resection<sup>(1)</sup>. However, when the position of the accessory spleen is relatively special and has caused the corresponding clinical symptoms and affected the health and quality of life of the patient, it may be considered for resection. This patient has a history of splenectomy.

The accessory spleen is located in the vesical rectal fossa. It causes certain compression on the bladder, seminal vesicles and rectum, causing repeated urination, urgency, urinary weakness, perineal pain and other symptoms and has seriously affected the quality of life of patients, so the resection is considered. Common clinical diagnostic methods for the spleen include ultrasound, CT, MRI, surgical exploration, etc. It is reported that<sup>(5-7)</sup> on the enhanced T2WI image of superparamagnetic iron oxide particles (sp~o), the degree of lesion signal decline is consistent with the main spleen. This quantitative analysis combined with subjective analysis can more clearly diagnose the accessory spleen.

Jang et al reported that [6], in addition to the traditional morphological MRI imaging, DW I sequence can be used as a tool to identify the accessory spleen and pancreatic solid tumors in the pancreas. The ADc (apparentdiffusinc Emcient)

ratio of accessory spleen and spleen in pancreas is closer to 0 compared with that of actual tumor and spleen in pancreas. With the development of imaging, the probability of misdiagnosis of accessory spleen is decreasing. Most accessory spleens have typical imaging manifestations, But when accessory spleens are located in rare sites, they are easy to be misdiagnosed.

For example, when accessory spleens are located in the pancreas, they are often misdiagnosed as neuroendocrine tumors, solid pseudopapilloma, etc<sup>(8-9)</sup>. When it is located in other rare parts or when the mass is large, it is often misdiagnosed as the corresponding site tumor.

In this case, the accessory spleen is located in the vesical rectal fossa which is large and adjacent to the surrounding organs, has exerted pressure on these organs and caused corresponding clinical symptoms. Due to the special location, the obviously interference of the patient's clinical symptoms, if a doctor is lack of clinical experience in this area, it is easy to be misdiagnosed as a pelvic tumor.

*By consulting the literature, we summarized the common causes of misdiagnosis of accessory spleen as follows:*

- The position of the spleen, when the position of the spleen is special, and close to other organs, the imaging examination is not easy to distinguish the source, which is easy to cause misdiagnosis.

- When the patient has other clinical symptoms, it is easy to be misdiagnosed. For example, in this case, the patient has frequent urination, urgency, urinary weakness, perineal pain and other clinical manifestations, which are easily misdiagnosed as urinary tumors.

- Misdiagnosis caused by enhanced CT and MRI scans. The blood supply of most accessory spleen is from the splenic artery, the enhanced form is consistent with the main spleen and it is easier for us to diagnose.

However, some patients' blood supply of the accessory spleen is not from the splenic artery or they have history of spleen resection, CT enhancement is different or incompatible with the main spleen, so it is easy to be misdiagnosed.

- The factors of the medical workers themselves, some doctors subjectively have insufficient understanding of the anatomy and imaging characteristics of the spleen, which is easy to cause misdiagnosis.

## Conclusion

In short, for most of the accessory spleen, the diagnosis is not difficult, but when the location of the accessory spleen is special and accompanied with other clinical symptoms and the imaging examination is difficult to judge the source, it is easy to misdiagnose. Therefore, in clinical, we should be familiar with the anatomical features, the frequent site, imaging features of the accessory spleen and tumor, in the urology, special attention should be paid to the identification of the accessory spleen and adrenal tumors. In this case, we reported a rare case of the accessory spleen in the vesical rectal fossa and described the common parts, the diagnosis and the causes of misdiagnosis of the accessory spleen, aimed to provide some reference for the clinical diagnosis of the spleen.

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*Authors contribution:*

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