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# Sclerosing angiomatoid nodular transformation (SANT) of the spleen: review of the literature

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*Dear Editor,*

Sclerosing angiomatoid nodular transformation (SANT) of the spleen is a rare, benign, proliferative vascular lesion, first reported by Martel et al. in 2004 (1-3). It has no characteristic clinical or radiological features, and they are often incidental findings on imaging studies performed for other pathologies.

## Case report

We report the case of a 60-year-old female, who was studied in 2012 because of left upper quadrant pain. On an abdominal ultrasound, only a left suprarenal incidentaloma was found. Subsequently, the patient was followed with periodic annual computed tomography (CT) scans to control the size of these incidentalomas. They remained unchanged until 2019, when the CT revealed an incidentally hypodense splenic mass, 1.6 x 1.3 cm, which dimly bulged the splenic capsule. This lesion was not

found in previous image controls and was unlikely to explain the discomfort of the patient.

With a provisional diagnosis of a splenic growing mass with uncertain etiology, the patient was scheduled for laparoscopic splenectomy, which was successfully performed. The postoperative course was uneventful, and the patient was discharged on the 5$^{th}$ day postoperatively. The histopathological examination revealed a solitary 2.1-cm spleen lesion, composed of red-brown nodules in dense fibrous stroma (Fig. 1A) and well-demarcated from the spleen parenchyma (Fig. 1B).

**Discussion**

SANT is a rare spleen lesion with a limited number of cases described in the literature (1). It was usually misdiagnosed as other pathologies such as hemangioma, hemangiosarcoma, inflammatory pseudotumor, hamartoma and metastatic tumors. The exact pathogenesis of SANT is unknown. However, some studies have detected Epstein-Barr virus ARN in resected specimens (1). The differential diagnosis from other splenic tumors or malignant lesions is very difficult (5).

Regarding the CT scan, SANT usually presents as a hypodense or isodense complex mass which is located in any site of the spleen, as in our case. According to the literature, the “spoke wheel pattern” is usually considered as a typical manifestation in CT images, but it is not available in all patients (3,4). Moreover, none of the radiological features are pathognomonic of SANT, and further studies are required to differentiate SANT from malignant lesions of the spleen (1). The final diagnosis is based on histopathological and immunohistochemical examination of the resected specimen (1,4). Generally, splenectomy is considered as the first-line option for SANT (1-4).

In conclusion, due to the diagnostic dilemma and the increased risk of spleen biopsy hemorrhage, most authors recommend splenectomy to rule out malignancy or another disease of the spleen (1). So far, the few data collected do not describe how only clinical observation without surgery would affect these patients.

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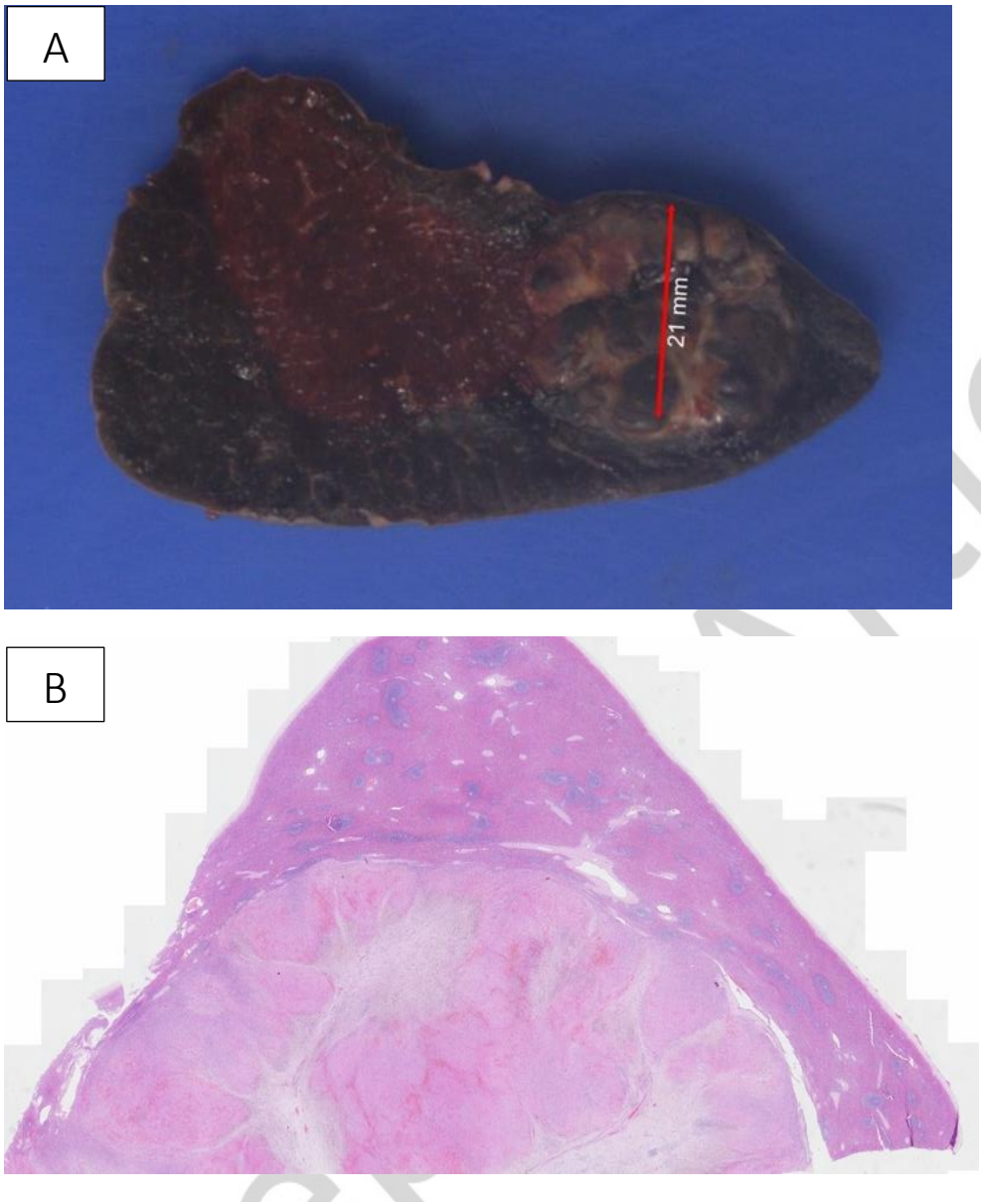


Fig. 1. Solitary 2.1-cm spleen lesion, composed of red-brown nodules in dense fibrous stroma (A) and well-demarcated from the spleen parenchyma (B).