dominant pattern is characterized by the presence of slitlike vascular channels lined by plump endothelial cells (red pulp) embedded in a fibrous background. Others may have a white pulp(lymphoid) component.[6,11,12]

Splenic hamartomas usually consist of chronic inflammatory cell infiltration and significant stroma tissue. Hemangiomas lack both of these features and usually appear as well-circumscribed lesions within the splenic parenchyma, not a bulging mass from the splenic surface as found in hamartomas. A variant of splenic hemangiomas, called littoral cell hemangioma, is characterized by its anastomosing vascular channels.[13]

Splenic hamartomas have been found in all age groups but most often occur in older adults[14] with no sex predilection. Although rarely symptomatic, splenic hamartomas have been reported with the presentation of hypersplenism, which presumably results from sequestration of hematopoietic cells and usually disappears after splenectomy, or symptoms related to an abdominal mass.[9,10,15] Nevertheless, some of the reported hamartomas may be "innocent bystanders", not at all responsible for the hypersplenism. Splenic hamartomas have also been reported in patients with tuberous sclerosis,[16,17] Wiskott-Aldrich syndrome,[18] and spontaneous splenic rupture.[9]

Preoperative diagnosis of splenic hamartoma is not easy. In the diagnostic image of the 54 reported patients from Japan, more than half of the cases showed a hypoechoic solid mass by ultrasonography, and CT scan demonstrated a low-density area.[3] Postcontrast CT shows enhancemant in the majority of cases, as seen in our patient.

A multimodal approach to diagnosis of hamartoma of the spleen preoperatively has been repeatedly described. Ohtomo et al. suggested that prolonged enhancement on postcontrast CT and MR imaging was a useful finding in differentiation of splenic hamartomas from malignant lesions of the spleen, especially from nodular lesions of malignant lymphoma.[19] This prolonged enhancement is probably due to stagnant contrast material within the sinusoids of the red pulp component of the tumors and within the fibrotic foci scattered in the tumors. Ramani et al. reported 5 cases of hamartomas which showed uniform enhancement on delayed MRI after contrast administration.[20]

Splenic hamartomas presenting as a "hot spot" on Tc-99m Phytate SPECT imaging have been reported.[21] The intense radiocolloid uptake might be related to the function of proliferating reticuloendothelial cells in the tumor. Positive ^{99m}TC-DTPA-HSA uptake was also recognized in a splenic hamartoma.[22] Similar uptake in the tumor has been reported using heat-treated ^{51}Cr-labeled red blood cells or technetium-labeled sulfur colloid scan[23,24,25] which, however, is not helpful in photodeficient patient.

On angiography, splenic hamartoma appears as a richly vascularized tumor, a characteristic that can be used to differentiate it from other benign tumors. The lesions are well demarcated from the normal spleen, and have characteristic findings of irregular dilated tortuous vessels with or without aneurysmal dilatation and occasional vascular lakes or arteriovenous shunting.[3,25,26] In contrast to most reports, our patient showed hypovascularity on angiography but a well-defined lesion as shown in (Fig. 5). From the pathological point of view, its hypovascularity could be explained by marked hemorrhage and fibrosis found within the tumor.

Splenic hamartomas are clinically important in patients with malignancies, including primary vascular malignancies, metastasis, and lymphoma. Surgeons should be aware of splenic hamartoma in differential diagnosis of splenic tumors and during abdominal ex-

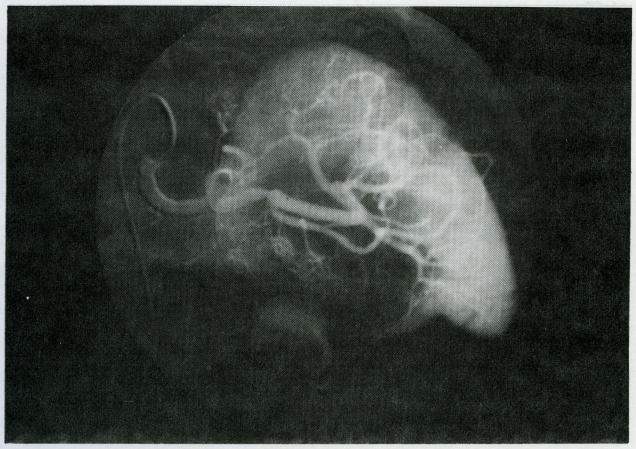

Fig. 5. On angiography, a space-occupying hypovascular lesion found in the slpenic hilum.