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Accessory spleen

ORIGINAL RESEARCH ARTICLE

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Abstract: *Accessory spleen is a congenital failure of fusion of splenicules usually found close to the splenic hilum or in the greater omentum or tail of the pancreas. Though mostly asymptomatic, these could confuse the diagnosis of certain tumors and also be the cause of relapse post splenectomy. The aim of this article is to present a case of accessory spleen found during the dissection and discuss the various diagnostic procedures, clinical implications and focus on splenosis.*

Key words: *accessory spleen, splenosis, dorsal mesogastrium*

I. Introduction

During the fifth week of intrauterine life, mesenchymal condensations called 'splenicules" start to appear in the left leaf of dorsal mesogastrium which eventually fuse to form the spleen. Any failure of this fusion results in small splenic tissues developing separately and resulting in accessory spleens. They are relatively common, with an autopsy study involving 3000 patients identifying 364 accessory spleens, of which 61 were found in the pancreatic tail.

The pancreatic tail and the splenic hilum are the most common sites though accessory spleens can be found anywhere along the line of dorsal mesogastrium and close to the urogenital ridge such as the stomach, jejunum, mesentery as well as the ovaries, spermatic cord,scrotum[1]and testis. Despite being common, they are rarely noted radiologically because the spatial resolution has been too low [2].

Round to oval in shape, measuring anywhere between 1 to 4 cm thick, these accessory spleens do resemble the main spleen in their microscopic structure. They are reported to be present in 10 to 30% of population.

Accessory spleens themselves have no clinical consequence unless a patient suffers from a disease like idiopathic thrombocytopaenic purpura. However, as they are commonly mistaken for tumours and patients may have to undergo needless operations for removing the lesion [3].

After splenectomy (due to trauma or autoimmune haemolytic anaemia) the recurrence of symptoms of thrombocytopenia is due to primary hypersplenism and it could take many years before such remission occurs [4]. During the routine cadaveric dissections for the medical students in the Anatomy dissection hall of Maharajah Institute of Medical Sciences, Vizianagaram, a well-defined accessory spleen was found attached to the mesentery, well separated from the main spleen and having its own feeder artery arising from the splenic artery. (Fig 1, 2, 3). It has a thickness of 1 inch and a length of 3 cm and breadth of 3 cm. It is somewhat oval in shape.

II. Discussion

Accessory spleens are incidental findings during pancreatic imaging or laparotomies. They may pose a diagnostic dilemma [3]. Apart from the causative factors for remission of thrombocytopenia post splenectomy, they often mimic tumours in cases of enlargement subsequent to splenectomy associated with gastrectomy. These circumstances necessitate the accurate diagnosis by ultra sound and other scanning procedures to avoid unnecessary surgical exploration.

Laparascopically, some accessory spleens appear well demarcated from the main spleen, having no hilum and having their own arterial supply. In the present case, the accessory spleen very much presents these features.

Typically, accessory spleens appear on CT scans as well-marginated, round masses that are smaller than 20 mm (transverse diameter ranged from 4 to 25 mm, with a mean diameter of 11.6 mm) and enhance homogenously on contrast-enhanced images. Diagnosing accessory spleen with CT scans and US is feasible in cases where the spleen is still present because its margin and density can be evaluated.

Accessory spleen has been correctly diagnosed by noninvasive techniques such as 99mTcheat-damaged red blood cell and single photon emission computed tomography. When an intra-abdominal mass is identified in a post splenectomy patient, even after lymph nodes dissection associated with gastric cancer,

accessory spleen must be acknowledged as a differential diagnosis, and more specific examinations should be performed to obviate unnecessary laparotomy [6].
Superparamagnetic iron oxide-enhanced MRI and Levovist-enhanced US, the mechanisms of which are theoretically similar to that of 99mTc scintigraphy, can also be used as alternative tools to confirm the diagnosis of accessory spleen [7, 8].

III. Accessory Spleens And Splenosis

Whereas the accessory spleens are congenital masses, splenosis is an acquired condition defined as auto transplantation of viable splenic tissue throughout different anatomic compartments of the body. It occurs after traumatic or iatrogenic rupture of the spleen. The inherent differences between an accessory spleen and splenosis are quite distinct and can help differentiate between these two conditions. Accessory spleens are usually few in number, totalling six or less. On the other hand, 100 or more individual splenic nodules are commonly found in splenosis and greater than 400 have been reported. An accessory spleen has normal splenic histology with its blood supply uniformly arising from a branch of the splenic artery. The blood supply in splenosis however, is derived from the surrounding tissues and vessels, without any association to the splenic artery. The tissue in splenosis usually reveals distorted architecture with no hilum, a poorly formed capsule and tissue of any shape or size. Splenosis has also been reported in the pericardium, subcutaneous tissue and even in the occipital pole of the brain [9-21].

IV. Conclusion

Accessory spleens in majority of cases are symptomless and represent a developmental failure. Accidents (fall from heights and road traffic accidents) involving the spleen are relatively common along with certain hemolytic conditions and others may require splenectomy. Fifteen to 20% of relapses of autoimmune cytopenia treated by splenectomy are related to accessory spleens. Ablation of accessory spleens can cure the patients, including those with accompanying common variable immunodeficiency [22, 4].

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Figures

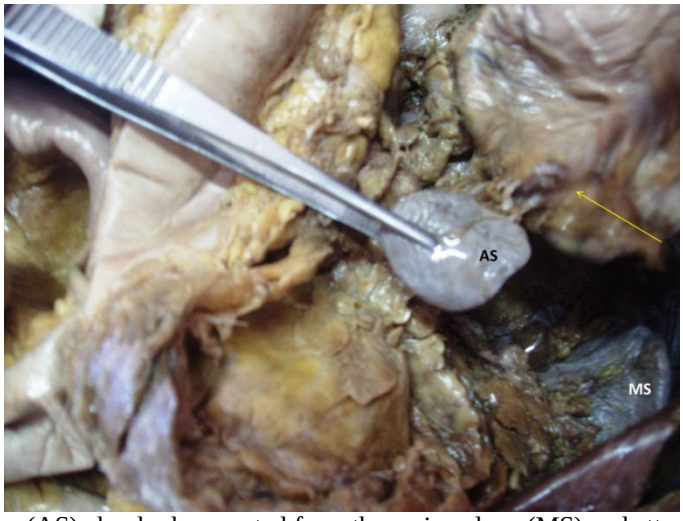

Fig1 Accessory spleen (AS) clearly demarcated from the main spleen (MS) and attached to the mesentery (arrow)

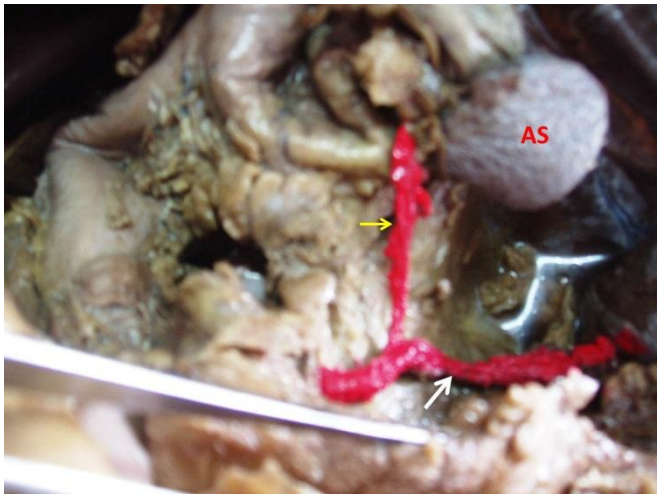

Fig2 Accessory spleen (AS) receiving feeder artery (yellow arrow) from the splenic artery (white arrow)

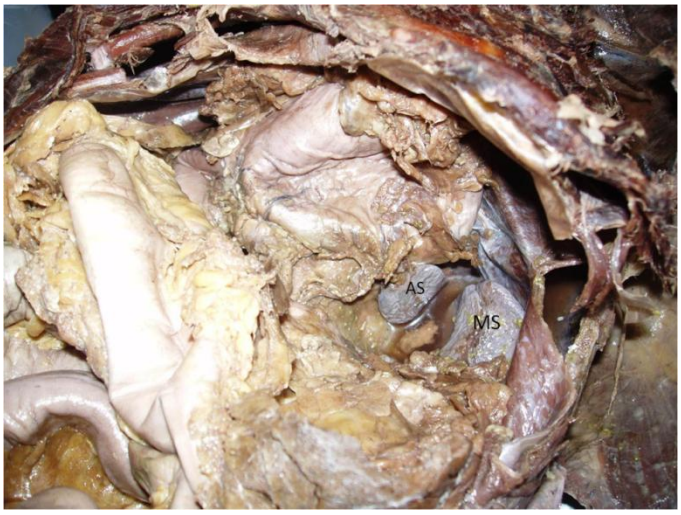

Fig3 Accessory spleen (AS) in situ