

Accessory Splenic Tissue: A Cadaveric Study

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ABSTRACT

The accessory splenic tissue or spleniculi is a small nodule of splenic tissue found apart from the body of spleen. They are found in 10%-40% of the autopsies and is about 1 to 2 cms in diameter. In present study 36 cadavers were studied for accessory splenic tissue during routine dissection in the department of anatomy, Jawaharlal Nehru Medical college Sawangi (Meghe), Wardha for a period of two years. In present study out of 36 cadavers accessory splenic tissue was found in one cadaver which was located in the leinorenal ligament which is the common site for the accessory spleen.

Keywords: Accessory Splenic Tissue, Spleniculi, Leinorenal Ligament, Splenosis, Mesentery, Omentum.

INTRODUCTION

Accessory spleen may be formed / deposited during development when some of the cells from the developing spleen are deposited along the path; the spleen develops in the dorsal mesogastrium.¹ These accessory spleen results from two etiologies: (i) accessory spleen or splenunculi (congenital); and (ii) splenosis (acquired). Accessory spleen represents congenital ectopic splenic tissue and is found in 10-44% of all necropsies.² They are common, seen in up to 16% of CTs of the abdomen.³

Splenunculi (also known as supernumerary or accessory spleens or splenules) are small nodules of spleen that are detached from the rest of the organ. They are benign and asymptomatic, their importance mainly related to the need to distinguish them from more sinister pathologies like metastasis.³

Accessory spleens are congenital nodules, composed of normal splenic tissue. The spleen forms from multiple smaller components during embryogenesis, and failure of this fusion can lead to one or more nodules remaining separate.³ Each component is extraperitoneal, as are splenunculi. They should not be confused with splenosis which is acquired and intraperitoneal.^{3, 4} Splenunculi are typically a few centimetres in diameter when identified, well circumscribed rounded or ovoid nodules. Its most common location is hilum of the spleen and can occur in contiguity with tail of the pancreas. Mesentery, omentum and peritoneum are the rare sites. Although most are located near

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the spleen, they have been identified elsewhere in the abdominal cavity including^{3,4}: near , the spleen (most common), gastrosplenic ligament, splenorenal ligament, pancreatic tail, greater omentum, small bowel mesentery, stomach or bowel wall and scrotum

OBJECTIVE

1. To study the incidence of accessory splenic tissue in cadavers

MATERIALS AND METHODS

A prospective observational study was carried out over a period of two years from April 2015 to April 2017 in the department of anatomy, Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha, Maharashtra, India.

The study included 36 cadavers (male-33, female -3). During the routine dissection of abdomen for undergraduate and postgraduate students the accessory splenic tissue was searched for at its common and uncommon sites i.e near the spleen (most common), gastrosplenic ligament, splenorenal ligament, pancreatic tail, greater omentum, small bowel mesentery, stomach or bowel wall and scrotum which were meticulously dissected. The accessory spleen found was photographed.

Confirmation of the accessory splenic tissue was done histologically.

OBSERVATIONS

Out of 36 cadavers dissected accessory spleen was found in one female cadaver only which accounts for 2.77%. The accessory spleen found in leinorenal ligament was rounded in shape measuring about 2.8 cms X 2.8 cm. It derived its blood supply

from the branch of the splenic artery and drained into splenic vein. The histological examination revealed capsule, trabeculae, white pulp with malphigion follicle with central arteriole and red pulp which confirmed it to be accessory spleen.

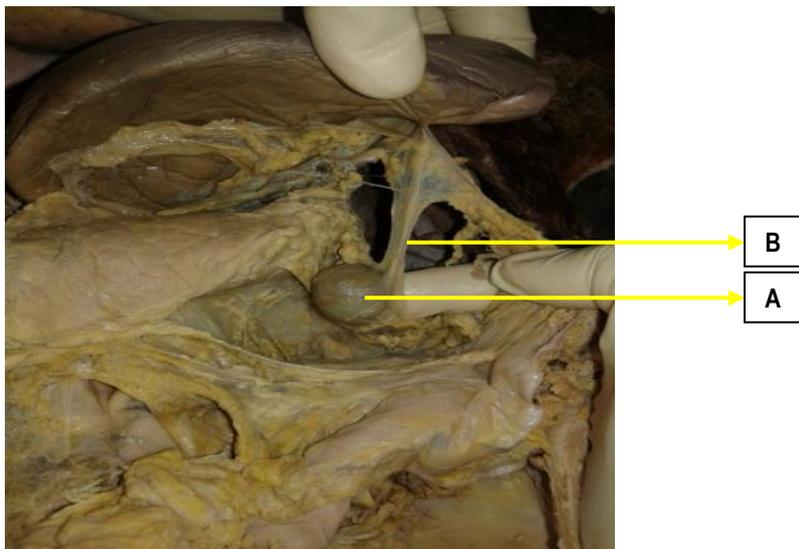


Fig 1: A-Accessory spleen, B- Blood supply of accessory spleen from splenic artery

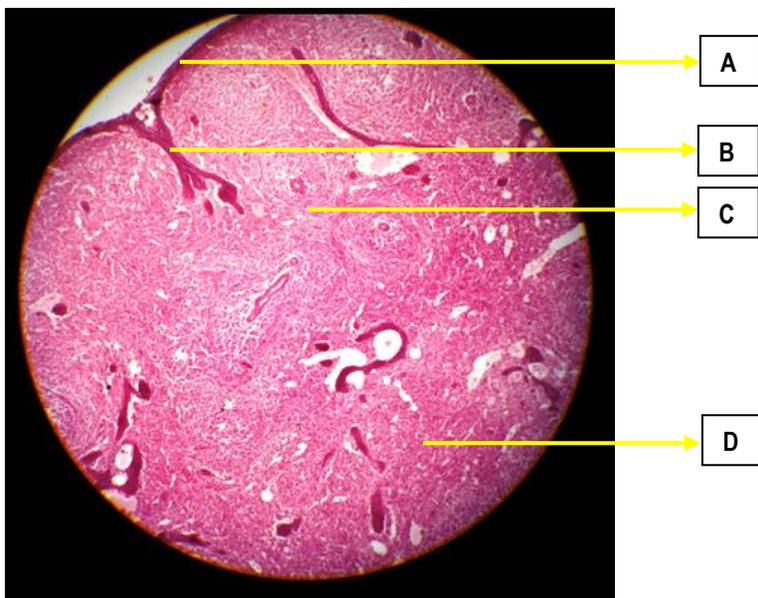


Fig 2: A- capsule, B-Trabeculae, C- W white pulp with malphigion follicle with central arteriole white pulp, D- Red pulp.

DISCUSSION

Splenunculi or accessory spleen is a congenital condition seen in 10–44% of autopsies⁵ and 10 to 30% of the healthy population.^{6,7} An accessory spleen arises from the side of the dorsal mesogastrium during embryological period of development as a result of imperfect fusion of separate splenic masses. Most often there is one accessory spleen (85%) sometimes two (14%) and rarely three or more (1%). Their size is not larger than 2cm in diameter. The most common location is hilum of the spleen in gastrosplenic ligament (50%), but may be found behind the tail of pancreas (30%) or rarely within greater omentum of the stomach, mesentery of the small intestine, mesocolon, pancreas⁸, Kidney⁹ and pelvis as an adnexal mass.¹⁰ In our study it is about 3.57%. The diameter is about 2.8 cms.

Accessory spleen need to be distinguished from splenosis which is an acquired condition associated with splenic trauma or surgery having incidence of 67%.¹¹ Accessory spleen are usually asymptomatic but rarely reported to present clinically as a abdominal mass related to complications such as torsion, spontaneous rupture, haemorrhage and the cyst formation. Torsion and ischaemia of accessory spleen can lead to gangrene, abscess, perforation and can present as an acute abdomen as in torsion of the main spleen.¹² Histologically accessory spleen can be differentiated from splenosis. Accessory spleen have well-formed capsule, hilum, trabeculae, white pulp with malphigian follicles having central arteriole and red pulp whereas splenosis nodules are surrounded

by capsule but malphigian follicles with a central arteriole are not formed.² Spleniculi are important in haematological disorders for which splenectomy is the treatment of choice. If the surgeon is not able to locate or remove them at the time of splenectomy, they will undergo hyperplasia and cause recurrence of the disease. Accessory spleens resemble normal spleen in structure. So in splenectomy for non-haematological causes accessory spleens should be preserved to prevent infection and sepsis after splenectomy.² Splenogonadal syndrome is a rare malformation resulting from the fusion of splenic tissue with the nearby developing gonad during five to eight weeks of gestation. More than 98% of reported cases have involved the left gonad mainly in male fetuses. Splenogonadal syndrome is associated with cryptorchidism or limb developmental abnormalities. Splenogonadal fusion is important to detect because failure to recognise it can lead to an unnecessary orchidectomy.

CONCLUSION

Awareness of the presence of an accessory spleen is important in a patient evaluated by CT prior to splenectomy as it results in failure of splenectomy and persistence of the condition as in haematological disorder which indicated the need of splenectomy.

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