

Accessory Spleen at Autopsy: An Incidental Finding

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Abstract

Spleen is a vascular organ situated in the left upper quadrant of the abdominal cavity. It appears approximately at sixth week of embryonic life. Like any other organ in the body it can display various developmental anomalies like agenesis, polysplenia, splencunculi etc. Accessory spleen (AS) may be formed during embryonic life as a separated splenic tissue along the path of development. This may be mistaken for neoplasm/secondaries due to neoplasm etc. Apart from this AS has many clinical significance to the surgeon.

Keywords: Accessory Spleen; Autopsy; Congenital Anomalies.

Introduction

Spleen is a lymphatic vascular organ situated in the upper left quadrant of the abdominal cavity between the fundus of stomach and the diaphragm. The spleen appears approximately at the sixth week of embryologic life as a localized thickening of the coelomic epithelium of the dorsal mesogastrium near its cranial end. The process occurs in adjoining areas, which soon fuse to form a lobulated spleen. The spleen can display various developmental anomalies like agenesis, multiple spleens (polysplenia), isolated small additional splencunculi etc [1].

Accessory spleens (AS) may be formed during embryonic development as ectopic or separated splenic tissue along the path from where the spleen forms at the midline to the spleen's final location on the left side of the abdomen [2]. Which are commonly mistaken for neoplasm or secondaries in case of malignancy investigations or surgeries. In cases of therapeutic splenectomy and ruptured spleen it is of clinical importance that the surgeon should have awareness of the presence of AS.

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Case Report

A 40 years male body was brought for medicolegal autopsy with the history of road traffic accident. On external examination injuries were noted. On internal examination along with routine autopsy finding we found an AS attached to the peritoneum below the spleen measuring 1X1 cm (Figure 1 and 2). Gross examination of the tissue revealed the healthy splenic tissue/mass. Microscopic examination of the tissue revealed the typical structure of the spleen.



Fig. 1: AS attached to peritoneum



Fig. 2: Separated mass of AS measuring 1x1 cm

Table 1: Incidence of AS in different population

Author	Country	No of cases	Method	Incidence (%)
Yee et al	USA	25	Laparoscopic surgery	4.0
Winde et al	Germany	72	Open surgery	4.2
Park et al	USA	147	Laparoscopic surgery	15.0
Mortele et al	Belgium	1000	CT scan	15.6
Casaccia et al	Italy	309	Laparoscopic surgery	8.1
Ungor et al	Turkey	141	Foetal autopsy	13.5

Discussion

The AS is also known as splencunculi or splenules. The incidence of AS is 6-16% world wide as reported by various studies (Table 1) [3-8]. The largest CT scan based study conducted by Mortele et al reported the incidence of 15.6% in Belgium population [6]. AS are usually located near the spleens hilum, but they may be found at the tail of the pancreas, in the greater omentum, in the wall of the stomach, in the mesentery and even in the pelvis and the scrotum [1,2,9,10]. The size of the AS is usually about 1 cm in diameter but vary from microscopic deposits to 5 cm in diameter [11-14].

The present case revealed a round mass of 1 cm in diameter located at the greater omentum, which is the most common size and shape of the ASas per the previous studies [3-8]. location of the AS at the greater omentum is the second most common position as per the previous studies and hilum of the primary spleen remains the most common site [3-8].

An AS is an incidental finding of no clinical significance in majority of patients. AS are generally determined during radiological investigations or during open or laparoscopic surgeries and during medicolegal autopsy. AS are usually asymptomatic but some time reported as acute abdomen due the complications like torsion, spontaneous rupture, hemorrhage and formation of a cyst within. The torsion and ischemia of the AS can lead to gangrene, abscess, peritonitis etc [14,15].

The European Association of Endoscopic Surgery has recommended a routine search for AS intraoperatively along with preoperative CT scan to achieve the highest detection rates and to prevent disease recurrence, especially for autoimmune hematological disorders. However, the value of preoperative imaging to detect AS remains unclear [16]. Some researchers report that the sensitivity of detecting AS with preoperative CT is higher, but others report that laparoscopy has a higher sensitivity [16-18]. Quah et al. recently reported that the sensitivity of CT scan before laparoscopic splenectomy in detecting AS was 60%, whereas the

sensitivity of laparoscopy in detecting AS was 93% [16]. It was also reported that Tc99m heat denatured red blood cell SPECT technique and reticuloendothelial system-specific contrast enhanced MRI may be used for detecting AS. [19,20]

It is concluded that, in addition to studies on CT scans and laparoscopic or open surgery series, autopsy series are useful for determining the incidences and the other features of AS in different populations. Surgeon should have awareness of the presence of AS and its clinical importance in day to day practice.

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