What is the function of the Greater Omentum?

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Main Image: greater_omentum.jpg

The stomach has five layers, starting with the innermost mucosa, submucosa, muscularis, sub serosa and serosa being the outermost layer of the stomach. The serous membrane is what forms the peritoneum membrane of the abdominal cavity. The parietal peritoneum has an extended fold of large size which hangs from it. This large fold is termed as Greater Omentum. The course of the greater omentum begins from the stomach’s greater curvature and travels from the front of small intestine and further ascends into the transverse colon. Finally, it reaches the posterior abdominal wall. In anatomical term it is called as epiploic which is derived from the Greek term epiploon meaning to sail or to float on. This terminology is applied to the greater omentum as it seems to be hanging or floating on intestinal surface.

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What is the composition of Greater Omentum?
Greater Omentum is a vital intraperitoneal structure having varying anatomical as well as pathological functions. It is mostly composed of fat but has other components like blood vessels, lymphatic and cellular tissues that are an integral part of the immune system. Homer’s Odyssey first referred to its relation with trauma and herniation. In 19th century, deeper studies reflected the dynamism of Greater omentum when Rutherford Morison first called it the abdominal policeman. It has the ability to phagocytize the process of inflammation and check the lesion and injuries to abdominal wall. Today, surgeons consider the omentum evaluation a very important diagnostic during the CT scanning. On the CT scan it looks like a fatty tissue band with varying width.

What are the functions of Greater Omentum?
Some of the regular functions of Greater Omentum are:
- It deposits fat that are made up of different density of adipose tissue
- It contributes to immunity by giving milky spots in case of macrophage collections
- It is known to isolate wound and infection
- It limits sometimes the intraperitoneal infection spread and are many times found to encircle the concerned areas of trauma or infection

What is vascular anatomy of Greater Omentum?
The greater omentum comprise of loaded arterial arcade constituting 3 influential vessels that descend from gastroepiploic artery along side the stomach’s greater curvature. From the gastroepiplic system arises the right, middle and left omental branch that possess tiny intervening branches along with draining veins lying adjacently. The vascular supply to the omentum is mostly provided by anastomosis from the right direction and gastroepiploic arteries from the left direction.

What are the different types of neoplasms occurring in Greater Omentum?
Primary neoplasms arise in Greater Omentum from the mesodermal elements that lay hidden in the nerves and vessels passing via omentum. Although these are rare, but when neoplasms do happen, they are mostly malignant. Some of the primary tumors that are traced in Omentum are leiomyosarcoma, hemangiopericytoma, myosacroma, sarcoma, reticulosarcoma, spindle cell sarcoma, fibrosarcoma, fibroma, fibromatosis, liposarcoma, rhabdomyosarcoma, leiomyoma, lipoma, desmoids tumor, mesothelioma, endothelioma, small round cell tumor and myxoma.

Which are the metastatic diseases associated with Greater Omentum?
Metastatic diseases that involve greater omentum are much more common than primary neoplasms or tumor. Many times the tumor may also involve the omentum secondarily. But the chances of its primary involvement in malignant lesions that metastasize to it are more. Some of such tumors are ovarian carcinoma, and tumors of pancreas and colon. Many times even the tumors of stomach, kidney, biliary tract or uterus have been found to metastasize to Greater Omentum. Lymphoma of External Références
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