MESENTERY – A NEW OR ALREADY KNOWN HUMAN ORGAN

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ABSTRACT

The mesentery is a double fold of peritoneal tissue that suspends the small intestine and large intestine from the posterior abdominal wall. It was previously thought to be a collection of discrete structures, however, recent research has found the mesentery to be one contiguous structure which has led to proposals for its reclassification as an organ. The mesentery has a crucial role in the intestinal, vascular, immune and endocrine systems, but it is not certain until now whether it should be considered as a part. Its effects are being studied at molecular levels and have yet to be detailed.

With this study, we aim to present the available research on the status of the mesentery according to the “Gray’s Anatomy” classification system by using a statistic from a range of articles regarding the topic. Our research will delegate the information by publication date, original papers, and literature reviews on the mesentery.

Recent evidence on the anatomy, histology and physiology of the mesentery, show that this structure is more complex than a simple peritoneal tissue. These results urge for a new conceptualization of the mesentery and accentuate the need for further research in terms of the clinical significance.

Key words: mesentery, peritoneal tissue, fascia, research

INTRODUCTION

Systematic study of the mesentery is now available due to further exploring its structure. The mesentery associated with the small intestine and colon is now regarded as contiguous (1). This continuity is observable only if the mesentery is visible in a certain manner. The division of the peritoneum allows approach to a plane formed by the mesentery and underlying fascia (2). Furthermore, several benefits have been obtained since the adoption of a universal nomenclature (3). A large amount of opportunities for research are now open regarding the role of the mesentery in health and disease (4). Previously, research of the mesentery had been done in relation to other organs and structures, as well as unrelated headings, but now it is studied under mesenteric science (2).

Explanation of the mesenteric structure has concurrently raised many questions as well as provided a platform for future research to take place. Several anatomical structures are yet to be explained. The adjacency of the mesentery to systems including, but not limited to vascular, lymphatic and neurological prove its central position (5).

Development to a greater extent of radiological and endoscopic mesenteric diagnostics will furthermore improve the staging of abdominal diseases (6).

PURPOSE AND TASKS

With this study, we aim to present the available research on the status of the mesentery according to the “Gray’s Anatomy” classification system by using a statistic from a range of articles regarding the topic. In order to accomplish this goal, we guided ourselves thru the following main tasks:

1. To study and review the available articles that we have found while doing a research on the mesentery.
2. To present the opinions of the many researchers that had stated their vote on the status of the mesentery.
3. To conclude the current state of the status of the mesentery.

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LITERARY REVIEW

Coffey et al. (7) are the first authors we decided to take an example from for our study. In their article they explain their opinion on the status of the mesentery and how they consider the mesentery as an organ.

The second author we researched upon is J.D.MartinJr (8), in his explanation in the Absence of dorsal fixation of mesentery of small intestine, he states that in his opinion the mesentery should be view as an organ because of its structure and functions.

Fabian et al. (9) as a group of researchers decided that the mesentery is still not researched enough and according to them it should keep its status as a tissue.

In their academic piece “Mesenteric Panniculitis that manifests itself with mass and abdominal pain”, Kaplanoglu et al. (10) state the same opinion as the previous researchers and clarify the product of their research as a tissue.

Some authors (11) described the mesentery as an organ based on their scientific research piece called “An appraisal of the computed axial tomographic appearance of the human mesentery based on mesenteric contiguity from the duodenojejunal flexure to the mesorectal level” stating that according to an image that we receive from the computer while doing a tomography it has a significant role in the function of the human body.

Culligan et al. (12) clarified the status of the mesentery as an organ by doing a nomenclature in colonic surgery.

Byrnes et al. (13) share the same view about the status of the mesentery and state it as an organ.

In their prospective observational study, Culligan et al. (14), discuss the problem of viewing the mesentery as an organ and listing it as a tissue. Although one of the researchers J.C. Coffey as its said in the first article changed his point of view and listed the mesentery as an organ in his newer article that he did with O’Leary et al.(13).

At the end of the researches Bo Feng et al. (15) list the mesentery as an organ.

CONCLUSION

Despite the claims of various authors in recent years, there is absolutely no conclusive evidence that the mesentery should be designated as an organ.

To conclude, advances in the studies and understanding of the mesentery now enable a meticulous study of it. Benefits, such as ones in gastroenterology are expected by improved diagnostics. Furthermore, pathology will attain benefits from a comprehensive understanding of abdominal diseases. Improved surgical techniques are also envisaged.

The processes involved in the embryological development of the mesentery were previously based on classic anatomical theories that attempted to reconcile mesenteric regression, fragmentation, and discontinuity. With contiguity now revealed, the embryological development of the mesentery, peritoneal reflection, and fascia need to be reconsidered. Understanding of the anatomy of the entire mesentery provides new anatomical endpoints to which researchers need further characterize the development of the mesentery and associated structures.

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