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# Variation of Type of Spleen of Bangladeshi Cadavar

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**Abstract**

***Context:*** *Spleen is a haemo-lymph organ and belongs to the reticuloendothelial system of human body developed from mesodermal proliferation between the two leaves of dorsal mesogastrium. It consists of a large encapsulated mass comprising of lymphoid and vascular tissues. Spleen is highly vascular, friable and elastic. It is purple in colour and moves with respiration. The spleen plays a central role in the pathophysiology of several potentially severe diseases such as inherited red cell membrane disorders, hemolytic anaemias and malaria. Study was done whether the specimens can be grouped into various types based on their morphology and the length of the hilum.*

***Materials and Methods:*** *A cross sectional descriptive study was carried out in the Department of Anatomy, Mymensingh Medical College on 65 postmortem human Spleen (34 of male and 31 of female) to find out the different types of spleen of Bangladeshi people by purposive sampling technique. Dissection was performed according to standard autopsy techniques. For statistical analysis, unpaired student't' test was used.*

***Result:****There were three types of spleen, among them, 34(52.30%)specimens were distributed in type,16(23.07%)specimens were intermediate in type and15 (24.61%) specimens were compact in type.*

***Conclusion :*** *The sixty five postmortem human spleen could be classified into three morphological types, distributed, compact and intermediate type, and this grouping seems valid, according to its external features and length of the hilum.*

***Key words:*** *Spleen, type of spleen, cadaver*

## Introduction

The spleen is an organ found virtually in all vertebrates. In human, it is the largest lymphatic organ. Spleen primordium appears as a mesodermal proliferation between the two leaves of the dorsal mesogastrium.[1] It consists of a large encapsulated mass of lymphoid and vascular tissues. Spleen is highly vascular, friable and elastic, purple in colour and moving with respiration.[2] Spleen filters blood by taking out worn erythrocytes.[3] It is situated in the left hypochondrium and partly in the epigastrium between the fundus of the stomach and the diaphragm. The shape of the spleen varies from slightly curved wedge to a domed tetrahedron.[4] The axis of spleen is oblique and it is directed downward, forward and laterally coinciding with the left tenth rib . The size and weight of the spleen vary with age and sex. In adults, it is usually 12 cm long.[5,6,7] Size increases in many disease process, such as idiopathic thrombocytopenic purpura, called splenomegally. Hypersplenism also cause splenic enlargement Spleen shows three morphological varieties, distributed, compact and intermediate type.[8] Here an attempt has been made to see whether such a classification of spleen types, based on its morphology does exit.

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## Materials and Methods

Depending on the length of the hilum spleens were collected from Bangladeshi cadaver of both sexes, age ranging from 5 to 60 years from autopsy laboratory of the Department of Forensic Medicine of Mymensingh Medical College. All the collected

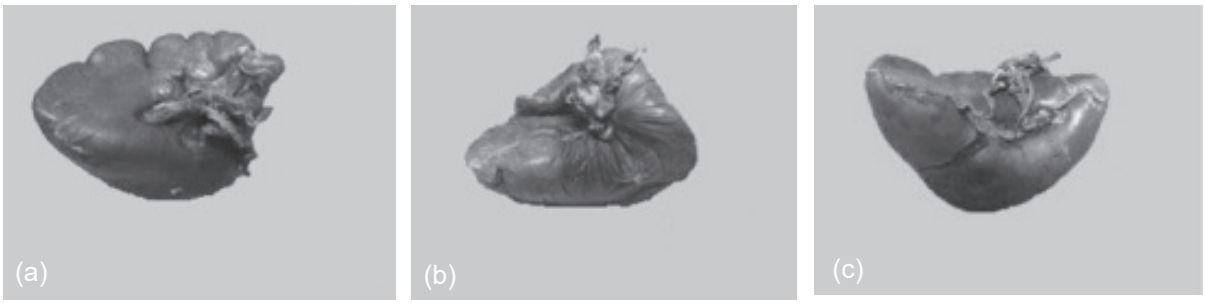


**Fig-1:** *Photograph Showing Different Types of Spleen: a (Distributed type), b (Compact type) and c (Intermediate type)*

specimens were from medico-legal cases. Samples were collected within 12 hours of death that showed no sign of putrefaction. Gross and fine dissection was carried out to study the different morphological parameters and fixed in 10% formol-saline for 24 hours for proper fixation. The present study was done with these fixed specimens in spite of some hardening and shrinking brought about by fixation and the notches on the superior border three general types of spleen were observed, the compact type characterized by a narrow hilum and relatively smooth borders, the distributed type, with a notched superior border and longer distributed hilum with vessels entering over a wider area, and an intermediate type showing mixed features.[9]

**Ethical Clearance**

This study was approved by the Ethical Review Committee of Mymensingh Medical College.

All data collected from specimens of each cadaver were recorded in the pre designed data sheet, analysis by SPSS program & compared with the findings of other national and international studies and standard text books.

**Result**

There were three types of spleen, among them, 34(52.30%)specimens were distributed in type,16(23.07%)specimens were intermediate in type and15 (24.61%) specimens were compact in type.

**Table-I**

*Incidence of Different Types of Spleen*

| Type of the spleen | Frequency | Percent |
|---|---|---|
| Distributed | 34 | 52.308 |
| Intermediate | 16 | 23.077 |
| Compact | 15 | 24.615 |
| Total | 65 | 100 |

**Discussion**

In the present study, there were three types of spleen, 17 specimens were compact (24.3%), 37 specimens were distributed (52.9%) and 16 specimens were intermediate in type (22.9%).

Alex et al[11] studied on 70 spleens in India and found that 19 (28%) specimens were distributed (hilar length > 6 cm) in type, 24 (34%) specimens were compact (hilar length, 5 cm) in type and 26 (37%) specimens were intermediate (hilar length 5"6 cm) in type. Comparison of the type of spleen with this study showed that nearly similar incidence in intermediate type and some dissimilar incidence with the other types.

Knowledge of the variational anatomy of the spleen, especially of its hilus, is indispensible to the surgeon in splecnectomy, resection of tumors and extirpation of cysts.[10]

**Conclusion**

The sixty five postmortem human spleen could be classified into three morphological types, distributed, compact and intermediate type, and this

grouping seems valid, according to its external features and length of the hilum. It was also found that three types are present on spleen of all sizes and shapes.

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