

Morphological Variations In Cadaveric Gall Bladders

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ABSTRACT

Background: Nerve bladder is a pear-formed pocket situated in right hypochondria, in a shallow fossa on the quadrate projection of the liver. There are normal varieties related with nerve bladder and it is specialist's obligation to be natural with them in order to keep away from careful blunders. Point: To depict outer morphology, rate of various states of nerve bladder and to contemplate varieties in net appearance of nerve bladder.

Methods: An absolute number of 50 dead bodies were taken apart, investigated utilizing SPSS and tried at 5% degree of importance.

Results: Out of 50 examples considered, 92% nerve bladders were discovered to be pear shape, 4% round and hollow, 2% jar shape and 2% sporadic.

Conclusion: The information on various shapes, varieties and abnormalities of nerve bladder could be helpful for radiologists and specialists to forestall intraoperative perils.

Keywords: Gall Bladder; Flask shape; Cylindrical

INTRODUCTION

The study and research in the field of human anatomy has a fundamental relationship and a lot of contribution in the practice of medicine and in particular to surgery. The gall bladder is a pear-shaped pouch measuring 7×5×1 centimeter. It is situated in the right hypochondrium, in a shallow fossa on the quadrate lobe of liver. The fundus touches the anterior abdominal wall and continues with the body and the neck that narrows into cystic duct¹. According to some eminent workers, a common pattern of variations may be found associated with gall bladder. This knowledge of different variations and anomalies is necessary for surgeons to prevent intra-operative errors. The present study describes variations seen in external morphology of gall bladder along with incidence and differences in dimensions and shapes.

METHOD AND MATERIALS

The present study was carried out in the Department of Anatomy in collaboration with the department of Forensic Medicine and Surgery, PGIMS, Rohtak. A total number of 50 adult human cadavers of both gender and age ranging from 18 years to 60 years were taken during medico-legal autopsies done in the department of Forensic Medicine after taking the informed consent. Specimens were collected as block dissection of the liver along with its associated structures and were fixed in 10% formalin for 24 hours [1-5]. The removed gall bladders were studied for their shapes, sizes and any other associated structural variations. The results were analyzed using SPSS 20.0 version and tested for 5% level of significance.

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Figure 1: Presenting the Different Shapes of Gall Bladder.

RESULTS

In the present study, it was observed that out of 50 cases studied, 92% gall bladders were pear shaped, whereas 4% were cylindrical shaped (Figure 1), 2% were flask shaped and 2% were irregularly shaped. Most commonly observed shape was pear shape [6].

Mean length of the gall bladder was (6.47 ± 1.59) cm whereas mean breadth was (3.19 ± 0.66) cm. The length was observed to be ranging between 4cm and 9cm whereas breadth of gall bladder was varying between 2cm and 5.5cm. A significant positive correlation was noted between length and breadth of gall bladder with Pearson's correlation coefficient as 0.520 and p value as <0.01 . Out of total 50 cases, 3 Phrygian cap and 3 Floating gall bladder was observed with incidence of 6% each [7-12].

DISCUSSION

The gall bladder varies greatly in size and shape and it may be impossible sometimes to distinguish between various parts described. The smallest and largest gall bladder observed in the present study was of 4cm and 9cm in lengths respectively. The length of gall bladder in the present study was slightly less than what had been reported by others. Comparison of dimensions and shapes of gall bladder as reported by various authors is shown in table 4. The breadth of the gall bladders in the present study ranged between 2 cm-5.5 cm and it was similar to that reported. Gore et al⁴ stated that the size might increase after vagotomy, in diabetes because of autoimmune neuropathy, in pregnancy, in patients with sickle cell disease, after cystic duct obstruction and in extreme obese people whereas micro gallbladder was usually seen in association with cystic fibrosis. In the present study this point could not be discussed because this type of history was not taken during sample collection. The pear shape of the gall bladder was found in most of the specimens (92%) in the present study and cylindrical, irregular and flask shaped gall bladders were also observed in 4%, 2% and another 2% of the cases respectively. These observations were in agreement with the findings. But, no hourglass or retort shape of gall bladder was observed in the present study as reported. Moore & Dalley⁵ and Chiari & Shah also reported pear shaped gall bladder in most of the cases but percentage frequency of this type of gall bladder was not mentioned.

In the present study folded fundus (Phrygian cap) was found in three (6%) specimens. Similar findings were reported whereas Deutsch et al reported this anomaly only in 0.33% cases. Several authors such as Mayo and Kendrick, Gooney, Barnes, Bose & Satyr in their studies had reported ectopic location of gall bladder, double and triple gall bladder and agenesis of gall bladder but no such findings were observed in the present study. A wandering or floating gall bladder is suspended from a long mesentery and hanging freely from the liver bed. It is susceptible to torsion and consequent gangrene and may herniate through the foramen of Winslow into the lesser sac. Floating gall bladder has been cited in literature in the form of numerous case reports. Kabarouders reported a case of floating gall bladder with hypoplasia of right lobe of liver and Maeda¹⁸ also reported a case of floating gall bladder associated with left hepatic lobe hypoplasia. In the present study, floating gall bladder was observed in 3 cases (6%).

CONCLUSION

The present study describes variations seen in external morphology of gall bladder along with incidence and differences in dimensions and shapes. The knowledge of different shapes, variations and anomalies of gall bladder could be useful for radiologists and surgeons to avoid surgical errors.

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