

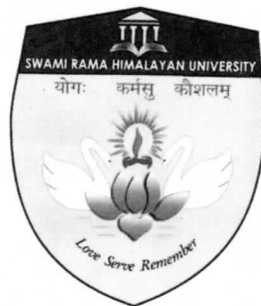
**MORPHOLOGICAL AND HISTOLOGICAL
STUDY OF LIVER, GALL BLADDER AND
BILE DUCTS IN HUMAN FETUSES**

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SUMMARY.

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We conducted our study in the department of Anatomy, HIMS over a period of one year. The study comprised of 32 aborted human fetuses of varying gestational age which were procured from the department of Obstetrics and Gynaecology, HIMS. The abdomens were dissected and the liver, gall bladder, cystic duct and the common bile duct were removed and fixed with formalin. We have studied the external parameters of the liver, gall bladder, cystic duct and the common bile duct. Sections were taken from all the four organs and stained with H&E, Masson's Trichrome and PAS and observed for the developmental changes.

A strong correlation was found between the external parameters of the liver with the CRL and hence with the gestational age. The width of the superior surface was the most reliable parameter to determine the CRL. These various parameters can serve as a guide in determining pathologies that affect the liver growth like Down's syndrome, maternal diabetes. As the liver stays well protected under the rib cage, during fetal autopsy it can be used to assess the gestational age. The dimensions of the gall bladder, cystic duct and common bile duct can also serve as a guide to determine the normal growth of the fetus and in forensic settings where the complete remains of the body are unavailable. Our results were found

to be similar to the studies done by Szpinda et al, Hamabe Y et al and Albay S et al (37, 39, 40).

Histologically, the time line of the development of the some of the structures in the liver differed from the study of Angadi M et al, Ansari M M et al and the study done by Hashmi H & Wankhede H A. All the four layers of the gall bladder were visualised from the 12th week onwards. The thickness of layers increased as the age advanced. But our findings differed from that of Thounaojam et al. The cystic duct showed a similar histology like that of the gall bladder, but the thicknesses of the layers were less. The common bile showed an epithelium surrounded by a thin layer of smooth muscle and connective tissue. There are few studies done on the histological changes in the common bile duct. Further studies can be done on the same, since it is commonly involved in carcinomas (26, 41, 42).