

# Regional morphometric changes in human uterine artery before and during pregnancy

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## Abstract:

**INTRODUCTION:** Uterine artery undergoes structural modifications at different physiologic states. It is expected that due to its unique course, hemodynamic stresses in the vessel would vary resulting in differences in arterial dimensions. The objective of this study was to investigate regional morphometric changes in the human uterine artery. **METHODS:** Twenty four uterine arteries (12 each from non-gravid uteri and gravid uteri) were obtained during autopsy after ethical approval from women aged between 21 to 47 years. Sections from proximal, middle and distal segments of the artery taken within 72 hours were processed for paraffin embedding, sectioned and stained with Mason's Trichrome. Micrographs of the slides were analyzed using Scion Image Multiscan software. Data were entered into and analyzed with Statistical Programme for Social Sciences. **RESULTS:** The pregnancy related increase in diameter and wall thickness are most pronounced in the proximal segment. In the distal segment, however, wall thickness reduces significantly ( $p < 0.05$ ). Intimal thickness was lesser in pregnancy compared to non-gravid state in all the segments. **CONCLUSION:** Regional morphometric changes in the uterine artery during pregnancy may be designed to regulate blood flow to the uterus and placenta during pregnancy