MICROSCOPIC EVALUATION OF EARLY ATHEROSCLEROTIC DEVELOPMENT IN NEW BORN

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KEY WORDS: microscopy, atherosclerosis, newborn

INTRODUCTION
Carotid bifurcation is one of the most common sites of atherosclerotic plaque formation. Although early lesion of atherosclerosis begins at the fetal period, it does not cause complications in a young population. In this preliminary study, newborn carotid arteries were investigated by means of light and scanning electron microscopy to assess the importance of carotid bifurcation in atherosclerotic plaque formation.

MATERIAL AND METHOD
The cadavers of seven newborns who died after a short period of time following delivery at about 40 weeks of gestation were used in this study. They were fixed with 5% formalin solution which was injected directly into cranial, and abdominal cavities. The sections taken from the carotid bifurcation were processed for light and scanning electron microscopy.

RESULTS AND CONCLUSION
Cryostate sections of 5 µm stained with Oil Red O depicted lipid-reach regions. Scanning electron microscopic investigation of the samples revealed protrusions on the endothelial surface and disruption of the endothelial integrity with separated endothelial cells. Fibrin deposits were encountered on the damage endothelial surface. We conclude that endothelial damage observed on the carotid arteries could correlate with early onset of atherosclerosis in the newborns.

REFERENCES