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RESEARCH ARTICLE

DISTRIBUTION OF GROWTH OF THE MAIN BRANCHES OF CORONARY ARTERY IN
MONGOLIAN CHILDREN AGED FROM 0-16.

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The finer details may be appropriate for the interest of anatomists and radiologists, In clinical practice, however, surgeons need only to be concerned with some of the more constant and important features. The branching characteristics of the coronary arterial tree plays an important role in cardiac surgeries, such as a heart pacemaker implantation, angioplasty, and even in stent placement. [1, 2]. We assessed the branching of arteria coronaria dextra (right coronary arteries), ramus circumflexus (circumflex branches of coronary artery), ramus interventricularis anterior (anterior interventricular branches of left coronary artery). In newborns lateral branches of the right coronary artery were short, scattered and curved. The main branch of the right coronary arteries was short at the base of the heart.

Left, left dominant, right, right dominant, identical those 5 types of heart blood supply was consisted gradually in children aged from 3 to 16. The estimated measurements of coronary artery was permanent in children aged from 4 to 16. In newborn, the elastic membrane of the vessels was not occurred in all branches of the coronary artery.

Five type /Left, left dominant, right, right dominant, identical/ of heart blood supply was predominantly in adolescents. The measurements were resemble of the left and right coronary in adolescents.

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Background:-

The finer details may be appropriate for the interest of anatomists and radiologists, In clinical practice, however, surgeons need only to be concerned with some of the more constant and important features. The branching characteristics of the coronary arterial tree plays an important role in cardiac surgeries, such as a heart pacemaker implantation, angioplasty, and even in stent placement. [1, 2].

The main branch of the right coronary arteries was short at the base of the heart. In newborns lateral branches of the right coronary artery were short, scattered and curved. Analysis of the data suggests a new anatomical system for classifying the vasculature of the coronary arteries in newborns. [7]

It is difficult to evaluate the microcirculation of the heart in infants. The available knowledge base is inadequate at present. The black ink cast technique has been applied most frequently to the studies of microcirculation. In the present study we have focused on learning about the architecture of small coronary arteries in infants. The eventual focus will be on the modification of the silver impregnation method proposed by Kuprianov in which the anatomical sections are pre-treated with silver nitrate. This procedure enhances the penetration and improves the detection of structures of the walls of the blood micro vessels. [3, 4, 5, 6]

Materials and Methods:-

The research study was implemented at the Department of Morphology, Health Sciences University of Mongolia, Maternal and Child Health Research Center, Mongolia and National Forensic Medicine Bureau of Mongolia. The study obtained 40 human hearts (19 male and 21 female infants) from cadavers of children (0-16 age) who died with non-cardiovascular disease.

The morphometric study was done by the method (vascular corrosion) recommended by B.B. Bunnak, A.I. Abrikosov and by G.G. Avtandilov.

Results, Discussion, Conclusion:-

We assessed the branching of arteria coronaria dextra (right coronary arteries), ramus circumflexus (circumflex branches of coronary artery), ramus interventricularis anterior (anterior interventricular branches of left coronary artery). In newborns lateral branches of the right coronary artery were short, scattered and curved. The main branch of the right coronary arteries was short at the base of the heart. But the anterior interventricular branch is longer than other branches and supplies blood to the anterior wall of the left ventricle, anterior 2/3 part of the interventricular septum and gets to the apex of the heart then supplies posterior 1/3 part of the interventricular septum.

Left, left dominant, right, right dominant, identical those 5 types of heart blood supply was consisted gradually in children aged from 3 to 16. The estimated measurements of coronary artery was permanent in children aged from 4 to 16. In newborn, the elastic membrane of the vessels was not occurred in all branches of the coronary artery.

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References:-

1. Aharinejad S, Lametschwandtner A. Microvascular (1991) Casting in Scanning Electron Microscopy. Techniques and Applications. NewYork: Springer, 2: 52–102
2. Aharinejad S, Schraufnagel DE, Mikovsky A, Larson ED K, Marks SC Jr. (1995) Endothelin-1 focally constricts pulmonary veins. J. Thorac. Cardiovasc. Surg.11: 148–156.
3. Andrew N (2006) Coronary artery anomalies Am J Physiol Heart Circ Physiol. 287(6): 1014-42
4. Bassingthwaite JB, Malone MA, Moffett TC, King RB, Little SE, Link JM, Krohn KA. (1987) Validity of microsphere depositions for regional myocardial flows. Am. J. Physiol.; 253: 184–193.
5. Bertuglia S, Colantuoni A, Intaglietta M. (1994) Effects of L-NMMA and indomethacin on arteriolar vasomotion in skeletal muscle microcirculation of conscious and anesthetized hamsters. Microvasc. Res. 68–84.
6. Changizi MA, Cherniak C (2000) Modeling the large –scale geometry of human Can. J Physiol Pharmacol. 78(8): 603-11
7. Kalsho G, Kassab Gs (2004) Bifurcation asymmetry of the porcine coronary vasculature and its implications on coronary flow heterogeneity Am J Physiol Heart Circ Physiol. 287(6): 42493-500