The New Surgical Treatment for Canine Congenital and Acquired Cardiovascular Diseases

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Recently, many abnormalities and diseases of the cardiovascular of congenital, acquired, unknown-etiolog and refractory heart failure were reported in small animal clinic. The methods of the surgical treatment were developped for aforesaid diseases until now. In this lecture, the new surgical treatment for these diseases will be report.

[I] The New Surgical Treatment for Canine Congenital Cardiovascular Diseases

1) New Surgical Method of Persistent Right Aortic Arch (PRAA) using Partial Esophagectomy
   This method attempts to decrease esophageal lumen size if the esophagus is severely dilated and not expected to return to normal size.

2) Surgical Correction of Patent Ductus Arteriosus (PDA) using Coil Occlusion
   This method is very simple and low risk. We reported a first successful case on 1980 in japan.

3) Surgical Correction of Ventricular Septal Defect (VSD) using Coil Occlusion
   This method is very low risk as well as the former.

4) Surgical Correction of Pulmonary Stenosis (PS) under Beating Heart using Cardio-Pulmonary Bypass System (CPBS).
   Surgical correction of PS under beating heart using CPBS will be useful for its safety, reliability and speedy restoration.

5) Surgical Correction of Pulmonary Stenosis (PS) using Right Ventricle-Pulmonary Artery Valved Conduit (RPVC)
   This new surgical method of RPVC implantation can be performed under the beating heart, non open heart and no using CPBS. Bypass circulation of the RPVC can be reduced remarkably of the right ventricular pressure. This is the most low risk and very inexpensive than the conventional methods.

6) Surgical Correction of Subvalvular Aortic Stenosis (AS) using Apico- Aortic Valved Conduit (AAVC)
   Conventional open heart surgery for canine aortic stenosis may cause complications and most of the dogs undergoing the operation are poor prognosis. Then, there is a need to develop less invasive surgical procedures for the management of AS than conventional resection. This surgical procedure for AS using AAVC can be performed under beating heart and may reduce the risk of open heart surgery by cardiopulmonary bypass system. Futhermore, the after-load may be reduced remarkably.

[II] The New Surgical Treatment for Canine Acquired Heart Diseases

1) Resection of the Heart Tumors under Cardiopulmonary Bypass System
   Resection of the heart tumors (hemangiosarcoma, hemodectoma, etc) is very dangerous operation. The resection of the heart tumors using cardiopulmonary bypass system is safaty and steady.

2) Valvuloplasty of the Mitral Regurgitation using Valve Ring under the Cardiopulmonary Bypass System.
   This method reduce of the dilated mitral annual ring.

3) Mitral Valve Replacement of the Mitral Regurgitation using Porcine Bioprosthetic Valve under the Cardiopulmonary Bypass System.
   Mitral Regurgitation (MR) is the most common acquired heart disease in dogs. Surgical Treatment for MR has not been established in veterinary medicine. We established of the Mitral Valve replacement using bioprosthetic valve under the cardiopulmonary bypass system.