**SURGICAL CORRECTION OF PERSISTENT RIGHT AORTIC ARCH IN A DOG: A CASE REPORT**

****

**A Report**

**By**

**Umme Nazifa Alam**

Roll No: 11/ 112

Reg. No: 00686

Intern ID: F – 54

Session: 2010 – 2011

A clinical report submitted in partial satisfaction of the requirements for the degree of

**Doctor of Veterinary Medicine**

Faculty of Veterinary Medicine

Chittagong Veterinary and Animal Sciences University

Khulshi, Chittagong, Bangladesh

**NOVEMBER 2017**

 **SURGICAL CORRECTION OF PERSISTENT RIGHT AORTIC ARCH IN A DOG: A CASE REPORT**

****

**Approved as to style and content by**

**(Signature of Supervisor)**

**Dr. Himel Barua**

**Associate Professor**

Department of Microbiology and Veterinary Public Health

 Faculty of Veterinary Medicine

Faculty of Veterinary Medicine

Chittagong Veterinary and Animal Sciences University

Khulshi, Chittagong, Bangladesh

**NOVEMBER 2017**

**INDEX**

|  |  |
| --- | --- |
|  **Content** | **Page** |
| **List of figures** | **iv** |
| **Abstract** | **v** |
| **Introduction** | **1-2** |
| **Case description** | **3-4** |
| **Figures** | **5-10** |
| **Discussion** | **11-12** |
| **Reference** | **13-14** |
| **Acknowledgement** | **15** |
| **Biography** | **16** |

**List of Figures**

|  |  |  |
| --- | --- | --- |
| **Figure** |  **Title** | **Page** |
| **Figure 1** | Radiograph showing dilatation of esophagus as obstructed due to Persistent Right Aortic Arch | 5 |
| **Figure 2** | Clipping and Shaving of the site of operation and soaking with tincture iodine and alcohol | 5 |
| **Figure 3** | Restraining and induction of anesthesia | 5 |
| **Figure 4** | Measuring the 4th intercostals space for incision | 6 |
| **Figure 5** | Placing a draper over the area of surgery | 6 |
| **Figure 6** | Vertical incision made on left 4th intercostals space | 6 |
| **Figure 7** | Separation of subcutaneous fat and bleeding check by using electric cauterizer | 7 |
| **Figure 8** | Incision on the muscle | 7 |
| **Figure 9** | Retraction of the left lung lobe and searching of ductus arteriosus | 7 |
| **Figure 10** | Identifying and pulling up ductus arteriosus | 8 |
| **Figure 11** | Double ligature made on ductus arteriosus | 8 |
| **Figure 12** | Dissection of ductus arteriosus in between two ligatures | 8 |
| **Figure 13** | Identification of fibrous band | 9 |
| **Figure 14** | Ligation and dissection of fibrous band | 9 |
| **Figure 15** | Simple interrupted suture given on muscle | 9 |
| **Figure 16** | Subcuticuler suture | 10 |
| **Figure 17** | Simple interrupted suture given on skin | 10 |

**ABSTRACT**

Persistent right aortic arch (PRAA) is the most common vascular ring anomaly in dogs frequently diagnosed in young, large-breed dogs. It occurs when the fourth right aortic arch persists instead of left to form the aorta. This malformation causes extraluminal compression of the esophagus up to the base of the heart and leads to esophageal dilatation. The food which cannot pass beyond the narrowing is regurgitated intermittently. Surgical removal of the stricture caused by the persistent right aortic arch is the preferred treatment. It is important to perform surgery early in the disease, before permanent growth damage has occurred. The purpose of the present case report was to describe a surgical approach for correction of PRAA in a dog. The case was recorded in the Veterinary Teaching Hospital, Khon Kaen University, Thailand during an internship placement. A four-month old French bulldog was presented to the Veterinary Teaching Hospital, Khon Kaen University with a history of regurgitation. On physical examination no other abnormalities were noticed. The diagnosis was confirmed based on the result of the esophagram, where the image was characteristic (esophagic dilatation at the cranial base of the heart). Based on the clinical and radiographical examination it was decided to perform a surgery immediately. General anaesthesia was given and maintained throughout the surgery. The surgical procedure was included thoracotomy by fourth intercostal space, then ligature and transaction of ligamentum arteriosum was performed. As a part of post-operative care fluid and antibiotic were administered. No complication was noted and the dog was improved over the subsequent days.

**Key words:** Persistent right aortic arch, Esophagram, Thoracotomy