INCIDENCE OF SUBLUXATION AND LUXATION IN HIP DYSPLASTIC DOGS

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Canine Hip Dysplasia is an inherited polygenic disease affecting most of the popular breeds, which lead to chronic pain and functional impairment. The purpose of study was to determine the prevalence of hip dysplasia in dogs presented to Veterinary College Hospital, Bangalore, from May 2014 to April 2015. Seventy five dogs have been diagnosed radiographically with hip dysplasia. Hip dysplasia was most frequent in young and large breeds and highest incidence of subluxation was seen in the age group of less than one year of age(32.14%) and the highest incidence of luxation was seen in age group of one to two years of age (31.57%) . The breed- wise incidence was more common in Labrador retriever (41.07%). Subluxation was more in male dogs (51.78%) and the luxation of hip was more in female dogs (52.63%) suffering from hip dysplasia.
Keywords: Hip dysplasia, Subluxation, Luxation, Orthopaedic disease.

Canine hip dysplasia is an inherited, developmental disease affecting most of the giant breeds of dogs (Genevois *et al*., 2008).Hip dysplasia is the most common orthopaedic diseases in dogs that can lead to chronic pain and eventual development of osteoarthritis. However, the vast majority of dogs affected with dysplasia show minimal or no clinical signs or with the subtle pain (Ginja *et al*., 2008). Canine hip dysplasia has genetic and environmental influences with evidence of gene effects at multiple loci confirming complex underlying genetics. Animals affected by hip dysplasia are born with normal hips, but quickly develop subluxation of the femoral head (Cindy and Audry, 1995). Hip dysplasia is marked by hip joint laxity and subluxation that leads to osteoarthritis, pain and disability in affected hip joint (Todhunter *et al*., 2003). The aim of our study was to determine the incidence of subluxation and luxation of hip joint predisposed by hip dysplasia in dogs between May 2014 to April 2015 based on the radiological examination.

Materials and Methods

A survey of clinical cases presented to Veterinary College Hospital, KVAFSU, Hebbal, Bangalore, from May, 2014 to April, 2015 with clinical signs of hip dysplasia were taken for this study. Based on the radiological examination of hips in various dog breeds, hip dysplasia was assessed and confirmed in dogs (Fig. 1). A standard ventro-dorsal hip radiograph of the dog in dorsal recumbency with rear limbs extended parallel to each other and stifle rotated inward under general anaesthesia was performed.

Fig 1: Radiograph of a dog suffering from hip dysplasia with luxated coxo-femoral joint

Results and Discussion

A total of 75 dogs were diagnosed as hip dysplastic during the period of study. In the present study the highest incidence of subluxation was recorded in the breed Labrador retriever (41.07%), followed by Rottweiler (12.5%), German Shepherd Dog (10.71%), Golden retriever (8.9%), Great Dane (7.1%), Pugs (5.3%), Saint Bernard (3.6%) and English Mastiff (3.6%). The highest incidence of luxation was recorded in Labrador retriever (57.9%), followed by German Shepherd Dog (15.8%), Golden retriever (15.8%) and Rottweiler (10.5%) (Fig 2). Labrador retrievers had the highest incidence of hip dysplasia due to their higher population due to breed popularity, inbreeding and genetic predisposition. The highest incidence of hip dysplasia due to their higher population due to breed popularity, inbreeding and genetic predisposition. The highest incidence of hip dysplasia in Labrador retriever was also recorded by Shiju *et al.* (2010); Smith *et al.* (2012). The highest incidence of subluxation was seen in the age group of less than one year (32.14%), followed by one to two years (16.07%), two to three years (14.28%), five to six years (14.28%), four to five years (12.5%) and three to four years (10.71%). The highest incidence of luxation was seen in the age group of one to two years (31.57%), followed by two to three years (26.31%), less than a year (21.04%), four to five years (10.52%) , three to four (5.26%) and five to six years (5.26%). The young dogs within two years of age had the highest incidence of hip dysplasia and increased hip joint laxity, rapid growth, body weight and slippery floor were the causes. Male dysplastic dogs had the highest incidence of subluxation (51.78%) and female dysplastic dogs had the highest incidence of luxation (52.63%) of hip. Simillar finding were recorded by Jayaprakash *et al.* (2007); Shiju *et al.* (2010) both; that male dogs were found to be more affected (59.55%) than female dogs by hip dysplasia.

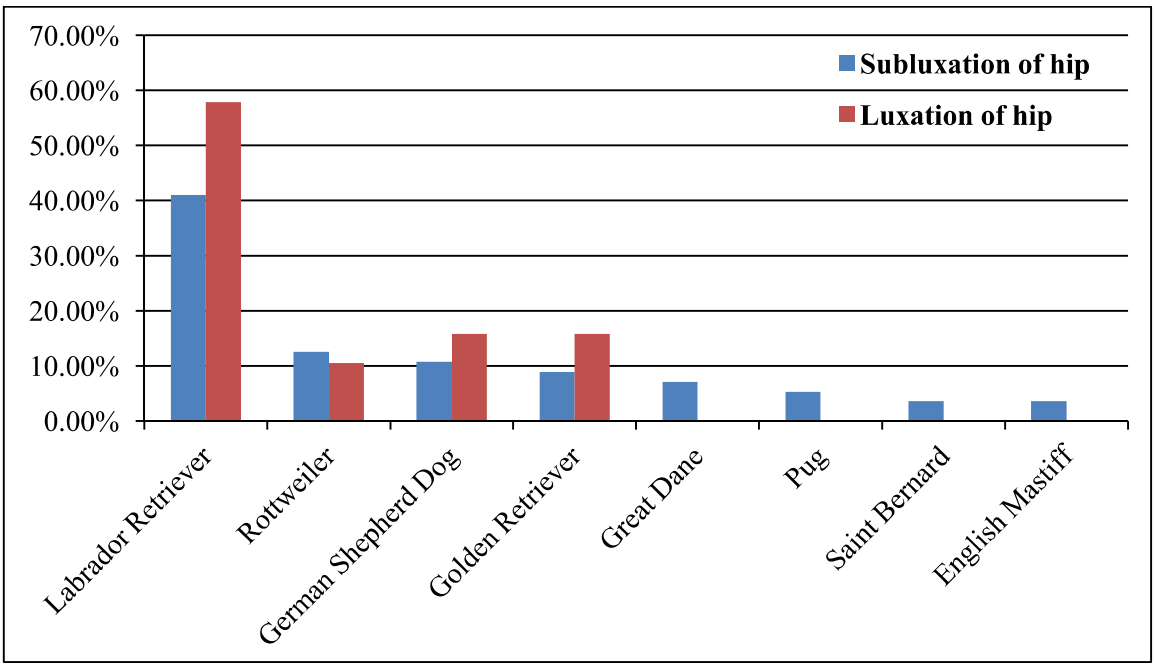

Fig. 2: Bar diagram showing breed wise occurrence of subluxation and luxation in hip dysplastic dogs

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