OCCURRENCE OF HIP DYSPLASIA IN DOGS: A RETROSPECTIVE STUDY

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Hip dysplasia is a developmental disorder leading to malformation of hip joint and is associated with pain and lameness. The present study included a total of 67 clinical cases of hip dysplasia presented to the Institution during period of two years. Diagnosis was made based on radiographical changes in hip joint. The age wise distribution, sex wise distribution and breed wise distribution of hip dysplasia was recorded. Average body weight of dogs with hip dysplasia was also observed. Bilateral and unilateral hip dysplasia with the left and right limb involvement were also recorded. This retrospective study of hip dysplasia yielded fruitful results in procuring relevant datas.

Keywords: Dog, Hip dysplasia, Occurrence, Osteoarthritis

Hip dysplasias the abnormal development of the coxofemoral joint characterized by subluxation or complete luxation of femoral head in young patients and mild to severe degenerative joint disease in old patients (Fossum et al., 2013). The development of canine hip dysplasia results from complex interactions among multiple genetic loci and environmental factors (Leighton, 1997). Large and giant breed dogs generally have a higher incidence of hip dysplasia than in smaller breed dogs, although exceptions existed (Krontveit et al., 2012). Abnormalities of pelvic musculature like weakened pelvic muscle mass and altered muscle fiber composition and size are associated with development of canine hip dysplasia (Cardinet et al., 1997). Many surgical methods are available in the literature for the treatment of hip dysplasia and osteoarthritis of hip (Anderson, 2011). The aim of this study was to determine the prevalence of hip dysplasia in the period between June, 2014 and May, 2016 on the basis of radiological examination and to assess whether there were differences in prevalence between the sexes, age and breed.

Results and Discussion

2418 dogs were presented to the outpatient unit of Department of Veterinary Surgery and Radiology between June, 2014 and May, 2016. Of which 726 (30.02 %) cases suffered from orthopaedic problems. Among 67 (9.22 %) orthopaedic cases were diagnosed as hip dysplasia (Fig.3). The age wise distribution of hip dysplasia in dogs less than one year, one to four years and above four years were 32 (47.76 %), 24 (35.82 %) and 11 (16.14 %) respectively (Fig.4) similar findings were reported by Citi et al. (2005) who have reported that the highest incidence (37.6%) was recorded in dogs less than 12 months of age followed by 25.5% in dogs between 25-72 months, 22.8% in dogs between 12-24 months of age and 14.1% in dogs older than 73 months.
Fig. 1 and 2. Radiographs Showing the Hip Dysplasia

Fig. 3: Occurrence of hip dysplasia

Sex wise distribution of hip dysplasia showed 39 (58.20 %) males and 28 (41.80 %) females i.e. in this study highest incidence of hip dysplasia was recorded in males than females (Fig.5), which may be due to preference of people to keep more male dogs as pets than females. Contrary to this Rettenmaier et al. (2002) reported that there is no significant difference in the prevalence of hip dysplasia between sexes or between pure bred and mix bred dogs. Though, similar findings were of Wood et al. (2002) who have recorded that hip dysplasia was higher in males than in females among Labrador Retrievers. But contrary to our findings, Coopman et al. (2008) have mentioned about their studies in different dog breeds of

Fig. 4: Age wise occurrence

Belgium and found that 60 % of females were affected with hip dysplasia.

Breed wise occurrence of hip dysplasia was highest in Labrador Retrievers 27 (40.29 %) followed by German Shepherd Dogs 19 (28.36 %), Rottweilers 9 (13.44 %), Pugs 4 (5.98 %), St. Bernards 2 (2.99 %), Lhasa Apso 1 (1.49 %), Doberman Pinscher 1 (1.49 %), Cocker Spaniel 1 (1.49 %), French Mastiff 1 (1.49 %), Golden Retriever 1 (1.49 %) and Spitz 1 (1.49 %). Similar findings were reported by Samir et al. (2014) who have observed that the incidence of canine hip dysplasia was 4.29%, 5.59%, 19.29% and 31.79% in small-sized, medium-sized, giant sized and large-sized breeds.
Sex wise occurrence

Fig. 5: Sex wise occurrence

Similarly, Krontveit et al. (2012) reported that large and giant breed dogs generally have a higher incidence of hip dysplasia than smaller breed dogs, although exceptions exist. In this study, average body weight of dogs with hip dysplasia was 24.74 kg with the lowest being 6 kg and highest 62 kg. Bilateral and unilateral hip dysplasia was found to be 56 (83.58 %) and 11 (16.42 %) respectively. In unilateral hip dysplasia, left and right limb involvement were 63.63 % and 36.37 % respectively. These findings were in accordance to Citi et al. (2005) who have also reported that bilateral and unilateral canine hip dysplasia was found to be 83.3 % and 16.7% respectively. The occurrence of osteoarthritis secondary to hip dysplasia was found to be 18 (26.86%) of all cases of hip dysplasia and in the present study osteoarthritis lesions were observed above 1.8 years old dogs.

References