Ventral Luxation After Total Hip Replacement

Total hip replacement (THR) is a common treatment for coxofemoral osteoarthritis in dogs. Many possible complications of THR exist, including luxation in a dorsal or ventral direction, and luxation is generally considered to be an early complication of THR. This retrospective study sought to identify the risk factors and prognosis associated with ventral luxation in canine THR. Medical records of 602 dogs that had undergone THR between 1999 and 2004 were reviewed, and dogs with ventral luxation after THR were compared with dogs that had uncomplicated THR. Of these dogs, 11 (1.8%) had initial revision or explantation for ventral luxation, and ventral luxation represented the fourth most common indication for revision after periprosthetic infection, aseptic loosening, and dorsal luxation. Two additional cases presenting with ventral luxation after the study period were also included. Most of these dogs (76%) were diagnosed with ventral luxation within the first 24 hours to 1 week after THR. Risk factors for ventral luxation included Saint Bernard–type dogs, short neck extension, and high angle of lateral opening in non–Saint Bernard–type breeds. A trend toward higher risk for ventral luxation was also noted when cementless implants were used and with lower femoral displacement ratio in Saint Bernard–type dogs. No single common risk factor for ventral luxation was found. All dogs with ventral luxation were ultimately treated surgically. Most revisions were successful, although 5 dogs (4 Saint Bernard types and 1 Irish setter) had recurrent luxation after initial revision. Thus, Saint Bernard–type dogs with recurrent ventral luxation warrant a guarded prognosis for ultimate outcome.

COMMENTARY: Although dorsolateral luxations after total hip replacement are more commonly reported, this study reminds us that ventral luxations occur as well. Saint Bernard-type dogs, short neck extensions, the use of the BFX cementless total hip system, and an increased angle of lateral opening of the acetabular cup were all implicated in ventral luxations. Although no single risk factor could be named in Saint Bernard-type breeds, significant muscle atrophy may have a tendency to predispose toward ventral luxation and even relaxation, rendering a poor prognosis. Although specific preventive recommendations could not be made, if dogs do not exhibit luxation within 1 week of surgery, they are unlikely (<30%) to do so.

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