Inflammatory Marker for Polyarthritis . . . and More?

Idiopathic arthritis (IPA) is the most common nonerosive, noninfectious immune-mediated joint disease. Diagnosis can be difficult because of the lack of specific laboratory tests and vague signs of the disease, which include episodic fever, anorexia, malaise, and lameness or inability to walk. In human medicine, C-reactive protein (CRP), an important acute-phase protein, is the gold standard inflammatory marker to estimate severity of disease. This retrospective study evaluated the clinical utility of measuring CRP concentrations in dogs with IPA. CRP concentrations were found to be elevated (> 1 mg/dl) in all 38 dogs at the time of diagnosis (mean concentration, 13.9 ± 6.1 mg/dl). Eleven of the dogs (29%) had CRP concentrations greater than the maximum measurement limit (> 20 mg/dl). Thus, CRP levels could be used to help diagnose canine IPA. CRP levels decreased rapidly after initiating corticosteroid treatment, as seen at follow-up (6 to 13 days after initiating treatment), indicating that CRP levels could be used as an index for therapeutic response. The dogs in the study were further classified 6 months after starting treatment to “not or seldom medicated (NSM)” or “continuing medication (CM)” groups. Of 26 dogs, 10 were included in the NSM group and 16 were in the CM group. When the CRP concentrations from the 6- to 13-day follow-up were compared between these 2 groups, the levels in the NSM group were significantly lower (0.26 ± 0.23 mg/dl) than those in the CM group (1.86 ± 1.69 mg/dl). In addition, at this 6-month period, dogs that had had elevated CRP levels (> 1 mg/dl) at the 6- to 13-day follow-up showed poor disease prognosis and needed medication more frequently than those that had had normal CRP levels (< 1 mg/dl). This finding suggests that the initial CRP responses of IPA dogs after initiating treatment might serve as a useful index for predicting the outcome. Further studies using a larger sample size are needed to confirm these conclusions.

COMMENTARY: C-reactive protein is a nonspecific inflammatory biomarker that is increasingly being used in human medicine as a predictive factor for cardiovascular events and the prognosis and recurrence of disease, and as a measurable response to antinflammatory therapy. Similar testing and monitoring applications are undoubtedly applicable to veterinary medicine. As this paper illustrates, we should see much more information emerge in the near future on the utility and correlation of measuring and monitoring CRP levels in veterinary patients.—Bess J.