

For veterinary use only

Clinical Guidelines

Vcheck cCRP

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What is CRP?

- C-reactive protein (CRP) is a major acute phase protein in dogs.
- Its concentrations **increase in dogs with systemic inflammation following surgery, trauma, infections, or neoplasia.**



Why is CRP important?

- Compared to other markers of inflammation like body temperature and leukocyte counts, CRP has been suggested to be a **more sensitive and reliable marker of systemic inflammation** in dogs.
 - ✓ CRP concentration is **very low in healthy patients**
 - ✓ **Increases within 4-6 h after inflammatory stimuli** ⇒ Reaching **peak concentrations 24-48 h**
 - ✓ **Normalizing quickly during recovery** (when the causative agent ends)
- **The magnitude of increase in CRP concentration reflects the degree of systemic inflammation**, and CRP concentrations decline with successful treatment of inflammatory diseases.
CRP can also be used to quantify the degree of inflammation.

When can CRP be elevated?

- Measurement of CRP is valuable in a clinical setting to diagnose systemic inflammation in dogs. Increased CRP concentrations have been reported in a **large number of conditions, including bacterial, viral and parasitic infection, immune-mediated disease, neoplasia, sterile inflammation, and surgical trauma.**

Infectious diseases

leishmaniosis, leptospirosis, parvovirus, ehrlichiosis, etc.

Specific inflammatory conditions

Inflammatory bowel disease, uremia, allergies, and immune-mediated disease, etc.

Endocrine and Metabolic disease

Non-specified neoplastic conditions



References

1. Viviana Albarracín, Mariana Teles, et al.: Canine Pancreas-Specific Lipase and C-reactive Protein in Dogs Treated With Anticonvulsants (Phenobarbital and Potassium Bromide). Topics in Companion Animal Medicine 30 (2015) 57–61.
2. Michelle B. Christensen, et al.: C-reactive protein: quantitative marker of surgical trauma and post-surgical complications in dogs: a systematic review. Christensen et al. Acta Veterinaria Scandinavica 2015) 57:71.
3. Anna Hillström.: Canine C-reactive Protein. Uppsala 2016

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When should we test for CRP?

- Regular check-up

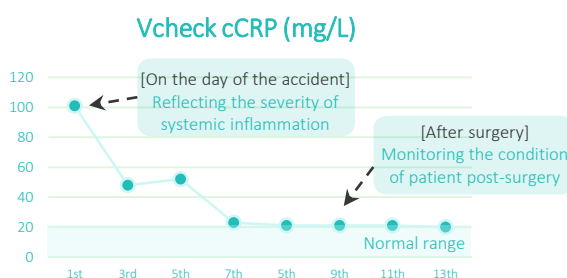
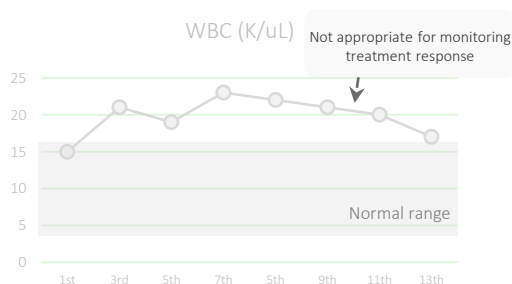
To confirm the presence of underlying inflammation

CRP can be **useful to detect inflammation that cannot be detected by other inflammatory markers**, such as WBC, neutrophil or ALB, suggesting that the examination of CRP concentration is essential as a routine diagnostic test.

- Monitoring response to therapy by serial monitoring

For evaluating treatment efficacy

The CRP level **promptly reflect the inflammatory extent of the body**. Measurement of the CRP concentration in dogs will be clinically valuable for detection of inflammation as well as **determination of disease severity** and **evaluation of response to treatment**.



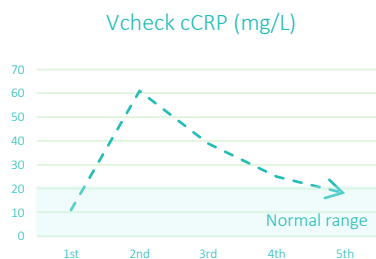
[Changes of WBC and CRP concentration in a patient hit by car and postoperative recovery]

- After Surgery

To monitor post-operative effects and recovery

CRP is a useful marker of surgery related systemic inflammation in dogs.

Routine measurements of CRP concentrations could **improve the assessment of postoperative inflammation and clinical decision making during recovery after surgery** in dogs.



[Changes of CRP concentration after 4th and 5th mammary gland mastectomy]

