

## **Post mortem interval estimation in dogs by radiographic assessment of gas formation in cardiac chambers**

### **ABSTRACT**

**Introduction:** There is an increasing demand for evidence-based veterinary forensic investigation due to the rise in cases of animal cruelty. One of such requirements is a close-to-accurate post-mortem interval (PMI) estimation method based on the principle that post-mortem tissue changes begin to occur immediately after death. Measurable changes include drops in core body temperature and variations in physical, biochemical and molecular processes. Physical changes involving gas distension of organs has gained attention recently as a marker for PMI estimation. **Objective:** This study assesses the gas changes identified with radiography occurring in the four-chamber of the heart that can be correlated with PMI. **Design:** Serial thoracic radiograph of ten adult euthanised dogs were taken at 6 hours intervals for 24 hours to observe for gas changes in the heart and associated structures. Findings were correlated to PMI. **Results:** As early as 6 hours post-mortem gas accumulation occurred in the right atrium and progressed to the right ventricle, the left ventricle and left atrium in a time-dependent fashion during the 24-hour study period. **Conclusion:** Routine post-mortem radiography of the heart can be harnessed for early PMI estimation in the first 24 hours.