

REAL-TIME PCR ANALYSIS OF DOG CEREBROSPINAL FLUID AND SALIVA SAMPLES FOR ANTE-MORTEM DIAGNOSIS OF RABIES

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Abstract. The use of a 10-day observation to determine whether a dog is rabid is standard practice. This study was conducted in order to look for evidence of rabies virus in saliva and cerebrospinal fluid (CSF) of suspected live rabid dogs at the time of quarantine by using a SYBR Green real-time RT-PCR based assay for the detection of rabies virus RNA. Saliva and CSF of dogs were collected once on the day of admission for the 10-day quarantine. All test dogs were or became ill and died of rabies within the observation period. Thirteen of 15 dogs (87%) had saliva samples that were positive for rabies RNA. Two dogs with furious rabies had negative saliva samples. Positive CSF samples were found in 4 of 15 dogs (27%) whose saliva samples were positive. The time from sample collection to result was less than 5 hours. Because virus may be absent or present at very low level in both clinical fluids, samples taken for ante-mortem diagnosis cannot definitively rule out rabies.