

EFFICACY OF THE BROMSULFOPHTHALEIN (BSP)
30-MINUTE RETENTION TEST FOR THE DIAGNOSIS OF
HEPATOBIILIARY DISEASE IN DOGS

Bente Flatland, DVM

(ABSTRACT)

Measuring the amount of bromsulfophthalein (BSP) retained in serum 30 minutes after intravenous injection can be used to evaluate hepatic function. BSP retention of less than 5% 30 minutes after intravenous administration is considered normal in dogs. The BSP retention test fell out of favor due to perceived inaccuracy when compared with bile acid and ammonia testing and a fear of hypersensitivity reactions. BSP was discontinued as a commercially-available drug in 1984. Use of BSP has continued at Virginia Tech despite the test's reputed disadvantages. The purpose of this study was to evaluate the efficacy of the BSP retention test in dogs with and without histopathologically-confirmed hepatobiliary disease. The medical records of 150 dogs with hepatobiliary disease having both a BSP retention test and hepatic biopsy performed were evaluated. Histopathologic slides were reviewed, and dogs were classified according to one of 11 predetermined histopathologic categories. Twenty-five random-source dogs were used as controls. Adverse effects following BSP administration were not observed in any dog. BSP retention was significantly different between hospitalized and control dogs, but the test could not distinguish between dogs with different types of hepatobiliary disease. Sensitivity, specificity, and predictive values of the BSP retention test were calculated, and its sensitivity was comparable to that of serum bile acid and ammonia testing. Using 6.0% retention as a cut-off for normal retention resulted in a specificity of 100%, sensitivity of 69.8%, positive predictive value of 100%, and negative predictive value of 35.7%.