

PROSTATE SPECIFIC ANTIGEN VERSUS COMBINATION OF PROSTATE SPECIFIC ANTIGEN AND ALKALINE PHOSPHATASE IN PREDICTION OF PROSTATE CARCINOMA BONE METASTASES DETECTED WITH BONE SCINTIGRAPHY

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Prostate cancer (PC) is the second one in morbidity and mortality in a population of men over 50 and has a high affinity for metastasis to the bone system. The aim of this study was to determine predictive value of prostate specific antigen (PSA) versus to combination of PSA and alkaline phosphatase (ALP) for existence of skeletal PC metastases. The study included 620 patients with histologically proven PC with elevated PSA, ALP, or clinical signs that indicated bone metastases. Bone scintigraphy (BS) was performed according to the protocol of the European Association of Nuclear Medicine. Specificity, sensitivity, positive and negative predictive value, and overall accuracy of PSA and the combination of PSA and ALP were evaluated in predicting the existence bone metastases on BS. The PSA showed sensitivity of 91.88%; specificity of 37.5%; positive predictive value of 53.32%; a negative predictive value of 85.62% and an overall accuracy of 61.22% (95% CI). The PSA and ALP combination showed a sensitivity of 99.20%, specificity of 96.88%, positive predictive value of 98.41%, and negative predictive value of 98.41% and an overall accuracy of 98.41% (95% CI). The combination of PSA and ALP showed significantly higher sensitivity, specificity, positive and negative predictive value and overall accuracy than the PSA only. When indicating BS in patients with PC, PSA, ALP, and clinical signs should be evaluated for the early detection of bone metastases and in the aim to avoid unnecessary admission to scintigraphy of patients in whom there is no high suspicion of bone metastases.

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