Bone morphogenetic protein 7 (BMP7) expression is a potential novel prognostic marker for recurrence in patients with primary melanoma.

The purpose of this study was to investigate whether protein expression of bone morphogenetic protein 7 (BMP7) is associated with clinico-pathologic characteristics in benign and malignant melanocytic skin tumors. Tissue microarrays (TMAs) were used to analyze BMP7 expression and the Ki-67 labeling index immunohistochemically. Expression was scored semi quantitatively (0-2+). BMP7 protein expression of any intensity (1+-2+) was detected in 50.2% (153/305) of informative cases. In general, BMP7 expression was significantly induced in malignant melanomas (P < 0.05) suggesting that induction of BMP7 expression is associated with proliferation (P=0.028). None of the other clinical and histological factors analyzed was significantly related to BMP7 expression. Interestingly, lymph node metastases demonstrated a significantly higher BMP7 expression compared to skin metastases (P<0.01). Strong BMP7 expression (score 2+) was significantly associated with shorter tumor recurrence (P<0.05). In summary, induction of BMP7 expression is frequent in melanomas and may serve as a novel prognostic marker of progression in melanoma patients.