Ln5-gamma2 is useful for differentiation between basal cell carcinoma and trichoblastoma.-Comparative study on useful immunohistochemical markers for differentiation between two tumors.

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Laminin5 (Ln5), the most abundant form of the basement membrane in adult tissue, contains alpha3, beta3, and gamma2 chains. Ln5-gamma2 is frequently expressed at the invasion front in many carcinomas. Trichoblastoma (TB) and basal cell carcinoma (BCC) are both assumed to arise from hair follicular germinative cells and resemble each other histologically, but are quite different in their biological behaviors. Thus, it is important to differentiate them histologically. In this study, we examined immunohistochemical expression of Ln5-gamma2 in TB and BCC, and found difference in the extents and patterns of the expression. Positive expression (>10%) of Ln5-gamma2 was noted in 96% (50/52) of BCC and 11.5% (3/26) of TB. Additionally, we studied immunohistochemical expression of D2-40, CD34, and CD10, which had been reported as markers of the differential diagnosis between BCC and TB. D2-40 was positive in 2% (1/49) of BCC and 25% (6/24) of TB, and CD10 was positive in 40.6% (13/32) of BCC and 100% (6/6) of TB. CD34 and CD10 were expressed in both tumor cells and peritumoral stroma: CD34 expression in TB [tumor cells: 17% (1/6), peritumoral stroma: 50% (3/6)] and BCC [tumor cells: 25% (8/32), peritumoral stroma: 0% (0/32)] was noted in 96% (50/52) of BCC and 11.5% (3/26) of TB. Additionally, we studied immunohistochemical expression of D2-40, CD34, CD10, and Bcl-2, which had been reported as markers of the differential diagnosis between BCC and TB. D2-40 was positive in 2% (1/49) of BCC and 25% (6/24) of TB, and Bcl-2 was positive in 40.6% (13/32) of BCC and 100% (6/6) of TB. CD34 and CD10 were expressed in both tumor cells and peritumoral stroma: CD34 expression in TB [tumor cells: 17% (1/6), peritumoral stroma: 50% (3/6)] and BCC [tumor cells: 25% (8/32), peritumoral stroma: 0% (0/32)]; CD10 expression TB [tumor cells: 37.5% (9/24), peritumoral stroma: 70.8% (17/24)] and BCC [tumor cells: 69.4% (34/49), peritumoral stroma: 20.4% (10/49)]. These results suggest that Ln5-gamma2 expression effectively helps differential diagnosis between BCC and TB. Furthermore, it seems that a panel of antibodies against Ln5-gamma2, D2-40, CD34, and CD10 is useful in the differentiation of the two tumors.