Desmoplastic melanoma component (Core)

Desmoplastic melanoma (DM) is a rare subtype of melanoma characterized by malignant spindle cells separated by prominent fibrocollagenous or fibromyxoid stroma. Primary melanomas may be entirely or almost entirely desmoplastic ("pure" DM) or exhibit a desmoplastic component admixed with a non-desmoplastic component ("mixed" DM).[1] Spindle (or epithelioid) melanoma cells not separated by desmoplastic stoma are not regarded as desmoplastic melanoma but may form the non-desmoplastic component of a mixed desmoplastic/non-desmoplastic melanoma. In 2004, Busam *et al* reported a clinicopathologic study of DM patients in which subdividing the tumours into "pure" and "mixed" subtypes correlated with clinical outcome.[2] In that study, the authors classified melanomas as "pure" DM if "the overwhelming majority (≥90%) of invasive tumour was desmoplastic", or "mixed" DM if "typical features of DM were mixed with densely cellular tumour foci without fibrosis and desmoplasia" and the DM areas involved <90% and >10% of the invasive melanoma. Similar findings have since been reported by others.[2-15] Improved disease-specific survival is seen in patients with "pure" DM, when compared with patients with "mixed" DM and those with melanomas lacking a desmoplastic component.[2-15] Furthermore, regional nodal metastasis (including that detected by sentinel lymph node biopsy) is less common in patients presenting with clinically localized pure DM compared with those who had mixed DM or conventional melanomas.[2-15]

References

1 Scolyer RA and Thompson JF (2005). Desmoplastic melanoma: a heterogeneous entity in which subclassification as "pure" or "mixed" may have important prognostic significance. *Ann Surg Oncol.* 12:197-199.

2 Busam K, Mujumdar U, Hummer A, Nobrega J, Hawkins W, Coit D and Brady M (2004). Cutaneous desmoplastic melanoma: reappraisal of morphologic heterogeneity and prognostic factors. *American Journal of Surgical Pathology* 28(11):1518–1525.

3 Smithers BM, McLeod GR and Little JH (1990). Desmoplastic, neural transforming and neurotropic melanoma: a review of 45 cases. *Australian and New Zealand Journal of Surgery* 60(12):967–972.

4 Carlson JA, Dickersin GR, Sober AJ and Barnhill R (1995). Desmoplastic neurotropic melanoma. A clinicopathologic analysis of 28 cases. *Cancer* 75(2):478–494.

5 McCarthy SW, Crotty KA and Scolyer RA (2006). Desmoplastic melanoma and desmoplastic neurotropic melanoma. In: *World Health Organization Classification of Tumors. Pathology and Genetics of Skin Tumours*, LeBoit PE, Burg G, Weedon D and Sarasian A (eds), IARC Press, Lyon, France, 76–78.

6 Baer SC, Schultz D, Synnestvedt M and Elder DE (1995). Desmoplasia and neurotropism. Prognostic variables in patients with stage I melanoma. *Cancer* 76(11):2242–2247.

7 Quinn MJ, Crotty KA, Thompson JF, Coates AS, O'Brien CJ and McCarthy WH (1998). Desmoplastic and desmoplastic neurotropic melanoma: experience with 280 patients. *Cancer* 83(6):1128–1135.

8 Jain S and Allen PW (1989). Desmoplastic malignant melanoma and its variants. A study of 45 cases. *American Journal of Surgical Pathology* 13(5):358–373.

9 Hawkins WG, Busam KJ, Ben-Porat L, Panageas KS, Coit DG, Gyorki DE, Linehan DC and Brady MS (2005). Desmoplastic melanoma: a pathologically and clinically distinct form of cutaneous melanoma. *Annals of Surgical Oncology* 12(3):207–213.

10 Gyorki DE, Busam K, Panageas K, Brady MS and Coit DG (2003). Sentinel lymph node biopsy for patients with cutaneous desmoplastic melanoma. *Annals of Surgical Oncology* 10(4):403–407.

11 Pawlik TM, Ross MI, Prieto VG, Ballo MT, Johnson MM, Mansfield PF, Lee JE, Cormier JN and Gershenwald JE (2006). Assessment of the role of sentinel lymph node biopsy for primary cutaneous desmoplastic melanoma. *Cancer* 106(4):900–906.

12 Arora A, Lowe L, Su L, Rees R, Bradford C, Cimmino VC, Chang AE, Johnson TM and Sabel MS (2005). Wide excision without radiation for desmoplastic melanoma. *Cancer* 104(7):1462–1467.

13 Shaw HM, Quinn MJ, Scolyer RA and Thompson JF (2006). Survival in patients with desmoplastic melanoma. *Journal of Clinical Oncology* 24(8):E12–E13.

14 Busam KJ (2005). Cutaneous desmoplastic melanoma. *Advances in Anatomic Pathology* 12(2):92–102.

15 McCarthy S, Scolyer R and Palmer A (2004). Desmoplastic melanoma: a diagnostic trap for the unwary. *Pathology* 36(5):445–451.