Keloidal Dermatofibroma: Clinicopathological Comparison of 52 Cases with a Series of 2077 Other Dermatofibromas

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Dermatofibroma is a common benign skin lesion with a contested etiology: some believe it is a neoplasm while others propose minor injuries initiate it. Many dermatofibroma variants have been described, including keloidal dermatofibroma, which is exceptional by bearing keloidal collagen. To better understand keloidal dermatofibroma characteristics and gain clues regarding dermatofibroma etiology, consecutive keloidal dermatofibroma cases (n=52) and dermatofibroma without keloidal collagen (n=2077) that were histopathologically diagnosed in 2016–2019 were identified from the records of a Japanese dermatopathology laboratory and compared in terms of demographic, clinical, and histopathological characteristics by univariate analyses. Compared to other dermatofibromas, keloidal dermatofibromas occurred more frequently on the forearm and hand ($p<0.0001$ and 0.0019, respectively), especially the wrist dorsum. Keloidal dermatofibromas also demonstrated more cellularity and hemorrhage (both $p<0.0001$). Correlation analyses between keloidal collagen amount and keloidal dermatofibroma size (a proxy of time-since-onset) did not support the notion that keloidal collagen deposition and keloidal dermatofibroma formation are triggered simultaneously. Moreover, recent injury, as indicated by fresh hemorrhage, was equally common in putatively older and younger keloidal dermatofibromas. Thus, keloidal collagen in keloidal dermatofibromas could be due to injury to preexisting dermatofibromas, which suggests that the keloidal dermatofibroma entity does not prove the injury hypothesis of dermatofibroma etiology.