# Expression of syndecan-1 (CD138) in nasopharyngeal carcinoma (NPC) is correlated with advanced stage and poor prognosis

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摘要

## Abstract

Nasopharyngeal carcinoma (NPC) is an important Epstein-Barr virus-associated head and neck malignancy in Taiwan. Syndecan-1 (CD138) is involved in growth, differentiation, invasiveness, and metastatic potential of certain tumors, but its expression in NPC has never been studied. In this study, detection of expression of syndecan-1 protein and Epstein-Barr virus-encoded latent membrane protein-1 (LMP-1) in primary, recurrent, and metastatic NPC specimens in paraffin sections was performed by immunohistochemistry. The quantity of syndecan-1 messenger RNA in tumor cells was investigated by real-time reverse transcriptase polymerase chain reaction using laser capture microdissection. The results of immunohistochemical staining of syndecan-1 and LMP-1 correlated with clinicopathologic features of NPC. Eighteen (20.9%) of 86 primary, 9 (24.3%) of 37 recurrent, and 15 (44.1%) of 34 metastatic NPC samples were positive for syndecan-1, and 37 (43.0%) primary, 18 (48.6%) recurrent, and 12 (35.3%) metastatic samples were positive for LMP-1 expression. Primary NPCs with syndecan-1 protein expression were more frequently associated with advanced clinical stages and worse 5-year survival rates than those without (P =.015 and P =.0021, respectively). Conversely, the LMP-1 expression did not correlate with tumor stage or prognosis but occurred more often in nonkeratinizing carcinoma than keratinizing squamous cell carcinoma (unpublished observation). The inverse expression of syndecan-1 and LMP-1 was noted in primary NPC specimens (total 4/18 versus 35/68, P =.05). The reverse transcriptase polymerase chain reaction revealed low syndecan-1 messenger RNA levels in both primary and metastatic NPC. In conclusion, the protein expression of syndecan-1 in 21% of primary NPC was associated with advanced disease and poor prognosis, and the protein expression correlated with transcription levels.