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Diagnostic and prognostic value of Bcl-2 in uterine leiomyosarcoma.

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ABSTRACT

BACKGROUND: Uterine leiomyosarcoma (uLMS) may show loss of expression of B-cell lymphoma-2 (Bcl-2) protein. It has been suggested that Bcl-2 loss may both be a diagnostic marker and an unfavorable prognostic marker in uLMS.

OBJECTIVE: To define the diagnostic and prognostic value of Bcl-2 loss in uLMS through a systematic review and meta-analysis.

METHODS: Electronic databases were searched from their inception to May 2020 for all studies assessing the diagnostic and prognostic value of Bcl-2 loss of immunohistochemical expression in uLMS. Data were extracted to calculate odds ratio (OR) for the association of Bcl-2 with uLMS vs leiomyoma variants and smooth-muscle tumors of uncertain malignant potential (STUMP), and hazard ratio (HR) for overall survival; a p value < 0.05 was considered significant.

RESULTS: Eight studies with 388 patients were included. Loss of Bcl-2 expression in uLMS was not significantly associated with a diagnosis of uLMS vs leiomyoma variants and STUMP (OR = 2.981; p = 0.48). Bcl-2 loss was significantly associated with shorter overall survival in uLMS (HR = 3.722; p = 0.006). High statistical heterogeneity was observed in both analyses.

CONCLUSION: Loss of Bcl-2 expression appears as a significant prognostic but not diagnostic marker in uLMS. The high heterogeneity observed highlights the need for further research and larger studies.