Abstract

Objectives: Previous evidences have implicated that DJ-1 overexpression might promote the pathogenesis of endometriosis and adenomyosis by activating the PI3K-AKT-mTOR signaling pathway. The aim of the present study was to explore the potential association among DJ-1 expression, the activation of PI3K-AKT-mTOR signaling pathway and the pathogenesis of endometriosis and adenomyosis.

Materials and Methods: The eutopic and ectopic endometrial tissues were collected from patients with endometriosis (n=48) and adenomyosis (n=30), respectively; additionally, eutopic endometrial tissues from 17 normal controls were also recruited. Strept Avidin-Biotin Complex assay was used to determine the expression levels of DJ-1 and p-mTOR (Ser2448) protein, and the potential association was analyzed.

Results: The expression of both DJ-1 and p-mTOR (Ser2448) in the ectopic endometrial tissues from endometriosis and adenomyosis was significantly higher than their corresponding eutopic endometrial tissues and normal controls (P<0.05), and there was positive correlation between the expression of DJ-1 and p-mTOR (Ser2448) (P<0.05); while neither DJ-1 nor p-mTOR (Ser2448) expression presented association among patients with different stage of endometriosis (P>0.05).

Conclusions: There was close association between the pathogenesis of endometriosis and adenomyosis as well as the increased expression of DJ-1 and p-mTOR (Ser2448), and there was also positive correlation between the expressions of these two proteins. Moreover, the overexpression of DJ-1 might promote the development of endometriosis and adenomyosis by activating the PI3K-AKT-mTOR signaling pathway.