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Differences in autophagy-associated mRNAs in peritoneal fluid of patients with endometriosis and gynecologic cancers

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Endometriosis and gynecologic cancer show similar patterns of invasion. Little is known about the roles of autophagy in endometriosis and, to date, the expression of autophagy-associated mRNAs has not been compared in patients with endometriosis and gynecologic cancers. This study therefore compared the levels of expression of autophagy-associated mRNAs in patients with endometriosis and gynecologic cancers. The levels of autophagy mRNAs, including those encoding mTOR, P13KC3, Beclin-1, Bcl-2, LC3 II, FLIP, Rubicon, BIRC2 and BIRC5, were measured by real time polymerase chain reaction in peritoneal fluid of 27 patients with benign masses (control group), 42 patients with endometriosis, and 43 patients with gynecologic (ovarian, uterine, and cervical) cancers. Findings in the three groups were compared. Autophagy mRNAs were present in all samples from patients with endometriosis and gynecologic cancers. The levels of PI3K, FLIP, and Rubicon mRNAs were significantly higher in the endometriosis than in the control group ($p<0.05$ each). Compared with the gynecologic cancer group, the levels of LC3II and FLIP mRNAs were significantly lower, and the levels of Beclin-1 and Rubicon mRNAs significantly higher, in the endometriosis group ($p<0.05$ each). Levels of PI3K and FLIP mRNA were significantly higher in the endometriosis and gynecologic cancer groups than in the control group ($p<0.05$ each). PI3K, FLIP, and Rubicon mRNAs are closely associated with the pathogenesis of endometriosis. The similar increases in PI3K and FLIP mRNA expression observed in patients with endometriosis and gynecologic cancer suggest that these conditions have similar autophagic characteristics. The lower levels of Beclin-1 mRNA in the gynecologic cancer than in other two groups suggest that lowerBeclin-1 mRNA levels increase the likelihood of developing gynecologic cancer.

Biography

Dong Choon Park is interested in Immunology, Gynecologic cancer, Infectious disease, Aging Process. Publications; More than 100 papers,including SCI(E) papers.

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