

Effect of peritoneal fluid and serum from patients with endometriosis on mouse embryo in vitro development

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摘要

Abstract

BACKGROUND. The adverse effects on early embryo development as caused by peritoneal fluid exudate and serum from endometriosis patients have been shown, but the underlying mechanism and clinical significance remain unknown. **METHODS.** Peritoneal fluid (PF) and serum (S) from patients with minimal to mild endometriosis (Group A, n = 12), moderate to severe endometriosis (Group B, n = 6), and others including tubal ligation and uterine myoma (Group C, controls n = 6) were obtained during laparoscopy. Two-cell mouse embryos were cultured at 37 degrees C in 5% CO₂, 95% air with supplementation of 10%PF + 1%BSA, 10%S and 10%S + 10%PF in HTF medium. The percentage of progression to the blastocyst stage at 72 and 96 hours was observed and compared among the three groups. **RESULTS.** Serum and peritoneal fluid from infertile patients with moderate to severe endometriosis appeared to be embryotoxic to the in vitro development of two-cell mouse embryos, but no significant differences were found between minimal to mild endometriosis and group C patients. **CONCLUSIONS.** These data suggest that the production of embryotoxic factor(s) is related to the clinical stage, and may be derived from endometriotic implants. The correlation of the embryotoxic effect of the peritoneal fluid with that of the serum indicates that embryotoxic factor(s) may enter the systemic circulation and impede early embryogenesis in the reproductive tract. The nature and mechanism of this result demand further study.

