

# Role of nitric oxide and bcl-2 family genes in the regulation of human endometrial apoptosis

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**Objective:** To investigate the role of nitric oxide (NO) and death regulatory genes, bcl-2 and bax, in human endometria apoptosis. **Design:** Expression of bcl-2, bax, NO synthases (NOS), and the apoptotic effect of L-arginine on endometrial explants in vitro. **Setting:** Prospective study. **Patient(s):** Thirty-seven eumenorrheic women. **Intervention(s):** Endometrial samples were obtained with Pipelle suction curette after women signed institutional informed consent forms. **Main Outcome Measure(s):** DNA fragmentation (TUNEL), immunohistochemistry, and reverse transcription polymerase chain reaction. **Result(s):** Apoptosis was detected in mid and late secretory endometria. L-arginine induced an increase in apoptosis in stroma (threefold), glands (eightfold), and surface epithelia (fourfold) in proliferative but not secretory endometria explants. Immunostaining of Bcl-2 was almost absent in the secretory endometria, whereas Bax increased in the stroma at the end of the menstrual cycle, coincident to the