

INTISARI

Latar belakang: Salah satu karakter yang dapat dijumpai pada endometriosis ialah terjadinya invasi jaringan. Namun, mekanisme proses invasi ini belum diketahui secara jelas. Adapun penelitian sebelumnya mendapatkan jaringan endometriosis dan polip endometrium (endometrium patologis) memiliki kesamaan karakter. Untuk itu, proses invasi jaringan endometrium normal, endometrium patologis, dan endometriosis perlu diamati. Melalui *chorioallantoic Membrane* (CAM) ayam, proses invasi dari suatu jaringan dapat diamati dengan mudah dan efisien.

Tujuan: Membandingkan proses invasi jaringan endometrium normal, endometrium patologis, dan jaringan endometriosis pada model *in vivo* berupa CAM

Metode: Sebanyak 7 sampel dari tiap kelompok jaringan (peritoneal endometriosis, endometrioma, polip endometrium, endometrium pasien endometriosis, dan endometrium normal; n=35) diambil dari 24 pasien yang menjalani histeroskopi atau laparoskopi. CAM didapatkan dari telur yang telah terfertilisasi dibuat lubang sirkuler pada cangkang dan diinkubasi sampai usia minimal 5-8 hari. Sampel jaringan ditempatkan pada medium transport DMEM, dipotong, dan diimplantasikan pada CAM. Setelah diinkubasi selama lima hari, jaringan dipanen untuk dibuat preparat histologi dengan metode parafin dan pewarnaan hematoksin-eosin. Kemudian, preparat diamati tingkat invasinya dengan mikroskop cahaya.

Hasil: Tingkat invasi jaringan ditunjukkan oleh skor destruksi epitel *chorion CAM*, dimana didapatkan rerata skor destruksi jaringan endometriosis sebesar $3,29 \pm 0,39$; jaringan endometrioma sebesar $2,79 \pm 0,80$; jaringan endometrium normal sebesar $2,07 \pm 0,98$; jaringan polip endometrium sebesar $1,79 \pm 1,075$; dan skor $1,21 \pm 0,39$ untuk jaringan endometrium pasien endometriosis.

Simpulan: Terdapat perbedaan bermakna ($H = 16,645$, $p = 0,002$) tingkat invasi diantara lima kelompok jaringan dengan urutan sebagai berikut: jaringan endometriosis, jaringan endometrioma, jaringan endometrium normal, jaringan polip endometrium, dan jaringan endometrium pasien endometriosis.

Kata kunci: endometriosis, endometrium, invasi, *chorioallantoic membrane* (CAM)

ABSTRACT

Background: One of the significant feature of endometriosis is invasion capacity into the surrounding tissue (deep infiltration). Nevertheless, the mechanism of invasion has not been clearly understood. Some references stated that patients with endometriosis have higher incidence to develop endometrial polyp. It is known that endometriosis and endometrial polyp (pathologic endometrium) share some similarities. Hence it is important to observe the invasion process of normal endometrium, pathologic endometrium and endometriosis. *Chorioallantoic Membrane* (CAM) of chick is an *in vivo* animal model that is commonly used to observe invasion or metastatic feature of some tissues.

Aim: Compare the invasion process of normal endometrium, pathologic endometrium and endometriosis on CAM as *in vivo* model.

Method: Seven samples from each group (peritoneal endometriosis, endometrioma, normal endometrium, endometrial polyp, and endometrium of endometriosis patient; n=35) are taken from 24 patients who underwent hysteroscopy or laparoscopy. CAM is taken from fertilized chick's eggs that are punched on its shell and are incubated until 5-8 days old. Samples are placed in DMEM transport, cut, and implanted on CAM. After five days of incubation, samples are harvested for histologic preparation with paraffin method and hematoxylin-eosin staining. Consequently, invasion levels are observed under light microscope.

Results: Invasion level of each tissue is represented by destruction score of chorion epithel of CAM. Average score of each group are $3,29 \pm 0,39$ for peritoneal endometriosis, $2,79 \pm 0,80$ for endometrioma, $2,07 \pm 0,98$; $1,79 \pm 1,075$; and $1,21 \pm 0,39$ for normal endometrium, endometrial polyp, and endometrium of endometriosis patient consecutively.

Conclusion: There is significant difference of invasion level among five groups of tissue: peritoneal endometriosis, endometrioma, normal endometrium, endometrial polyp, and endometrium of endometriosis patient consecutively.

Keywords: endometriosis, endometrium, invasion, *chorioallantoic membrane* (CAM)