

## SUSUNAN SEL EPITEL GLANDULA PERITONEAL ENDOMETRIOSIS DAN POLIP ENDOMETRIUM DI BERBAGAI TINGKAT INVASI PADA MODEL *CHORIOALLANTOIC MEMBRANE* (CAM) AYAM

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### ABSTRAK

**LATAR BELAKANG:** Endometriosis merupakan suatu kondisi ditemukannya stroma dan glandula endometrium di luar kavum uteri. Teori mengenai patofisiologi endometriosis sudah banyak diungkapkan, salah satunya mengenai implantasi endometrium pada peritoneum pelvis. Resiko terjadinya polip endometrium meningkat pada pasien endometriosis, sehingga proses invasi keduanya perlu diamati untuk mengetahui persamaannya. Dengan *chorioallantoic membrane* (CAM) ayam, proses invasi jaringan dapat diamati dengan lebih sederhana dan efisien.

**TUJUAN:** Membandingkan proses invasi sel epitel glandula pada jaringan peritoneal endometriosis dan polip endometrium, dalam model in vivo CAM telur ayam.

**METODE:** Penelitian ini merupakan studi deskriptif analitik pada model in vivo. Jaringan peritoneal endometriosis (PE), polip endometrium (P), dan endometrium eutopik (E) sebagai kontrol diambil dari pasien RSUP Dr. Sardjito Yogyakarta, melalui prosedur histeroskopi dan/atau laparoskopi. Jaringan ditranspor dengan medium *Dulbecco's Modified Eagle Medium* (DMEM), dipotong dengan ukuran 2,5x2,5 mm dan diimplantasikan pada CAM telur ayam, yang telah dibuat lubang sirkuler berdiameter 1 cm di bagian ujung cangkang. Selanjutnya, telur diinkubasi selama 5 hari pada suhu 37°C. Setelah itu, jaringan dipanen, disimpan dalam *Paraformaldehyde* 4% (PFA), sebelum dijadikan blok paraffin dan dipotong sebagai sediaan mikroskopis. Sampel dilakukan pengecatan hematoksilin-eosin (HE), dan diamati susunan sel epitel glandula dan tingkat invasinya pada mikroskop cahaya.

**HASIL:** Terdapat 27 sampel jaringan yang memenuhi kriteria dan dianalisis. Dari seluruh sampel, terdapat 5 jenis susunan sel epitel glandula yang teramati yaitu utuh (P 22,22 %; E 11,11%), tidak utuh (P 22,22%; E 11,11%), tersebar (P 11,11%), berbaris (PE 11,11%; E 11,11%), dan *remodeling* (PE 66,67%; P 22,22%; E 33,33%). Hasil uji *mann whitney* menunjukkan terdapat perbedaan skor *remodeling* glandula PE dan P yang signifikan dengan nilai *p* sebesar 0,019 (*p*<0,05).

**KESIMPULAN:** Tidak terdapat persamaan kemampuan penyusunan kembali glandula jaringan peritoneal endometriosis dan polip endometrium.

**Kata kunci:** Peritoneal Endometriosis, Polip Endometrium, Sel Epitel Glandula, *Chorioallantoic Membrane* (CAM)

## THE ARRANGEMENT OF PERITONEAL ENDOMETRIOSIS AND ENDOMETRIAL POLYP GLANDS EPITHELIAL CELLS IN VARIOUS INVASION STAGES IN CHICK CHORIOALLANTOIC MEMBRANE (CAM)

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### ABSTRACT

**INTRODUCTION:** Endometriosis is defined as the presence of endometrial stromas and glands outside the uterine cavity. Several theories have been proposed to explain the pathophysiology of this disease, especially about the implantation of reflux endometrial tissue into pelvic peritoneal. The risk of endometrial polyp has been known for its increase in endometriosis patients, hence the invasion process of both tissues is essential to be evaluated in order to find those similarity. Therefore, Chick chorioallantoic membrane (CAM) was used to evaluate the tissue invasion process in simpler and more efficient way.

**OBJECTIVE:** To compare the invasion process of gland epithelial cells of peritoneal endometriosis and endometrial polyp, by using eutopic endometrial as control group, in CAM as an in vivo model.

**METHODS:** This was a descriptive analytical study. Tissue samples of peritoneal endometriosis (PE), endometrial polyp (P), and eutopic endometrium (E) as control were taken through hysteroscopy and/or laparoscopy from the patients in RSUP Dr. Sardjito Yogyakarta. The samples were transported in *Dulbecco's Modified Eagle Medium* (DMEM) medium, incised approximately 2.5x2.5 mm, and then implanted onto the egg CAM, which had been drilled to make a circular hole in the edge of the eggshell in 1 cm diameter. Afterwards, fertile eggs were incubated for 5 days at 37°C. Following that, the implanted tissue and the surrounding CAM were excised, stored in 4% Paraformaldehyde (PFA), and then embedded in to paraffin before it preceded to be histological samples. The samples were stained with hematoxylin and eosin (HE). The arrangement of gland epithelial cells and its invasion stage were observed under a light microscope.

**RESULTS:** Twenty-seven tissue samples had been collected and analysed. From all samples collected, there are 5 type arrangements of gland epithelial cells observed, which were complete (22.22% P; 11.11% E), incomplete (22.22% P; 11.11% E), scattered (11.11% P), forms a line (11.11% PE; 11.11% E), and remodelling (66.67% PE; 22.22% P; 33.33% E). Result of the Mann whitney analysis showed that there was a significance difference of gland remodelling score between PE and P with p value 0.019 (p<0.05).

**CONCLUSION:** There is no similarity of gland remodelling ability between peritoneal endometriosis and endometrial polyp.

**Kata kunci:** *Peritoneal Endometriosis, Endometrial Polyp, Gland Epithelial Cell, Chorioallantoic Membrane(CAM)*