

**PENGARUH PEMBERIAN *BLASTOCYSTIS SP.* TERHADAP  
GAMBARAN HISTOPATOLOGI USUS TIKUS  
BERDASARKAN MODIFIKASI KRITERIA  
BARTHEL MANJA**



**Skripsi**  
**Diajukan ke Fakultas Kedokteran Universitas Andalas sebagai**  
**Pemenuhan Salah Satu Syarat untuk Mendapatkan**  
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## ABSTRACT

### **THE EFFECT OF BLASTOCYSTIS SP. ON HISTOPATHOLOGICAL IMAGES OF RAT INTESTINE BASED ON MODIFIED BARTHEL MANJA CRITERIA**

By

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*Blastocystis sp. is intestinal protozoan parasite that can be found in the intestinal tract of humans and animals. The clinical features associated with Blastocystis sp. are such as nausea, anorexia, diarrhea, and also associated with the incidence of Inflammatory Bowel Disease and Irritable Bowel Syndrome. The pathogenicity of Blastocystis sp. is still controversial, so researcher is interested to investigate the inflammatory reaction caused by Blastocystis sp. through histopathological changes.*

*This research was experimental study using a post test only control group design approach. This study involved 21 rats which were divided into 3 groups (PI, PII, and K). The PI group was inoculated orally with Blastocystis sp. dose  $10^5$ . The PII group was inoculated orally with Blastocystis sp. dose  $10^4$ . The K group was given normal saline without Blastocystis sp. The rats were terminated and then the colon and cecum organs were taken for histopathological examination based on Barthel Manja's modified scoring.*

*The results of the research based on the Chi-Square test showed that there was an significant ( $p < 0.05$ ) effect of Blastocystis sp. on submucosal oedema, PMN cell infiltration and epithelial damage in the colon, but there was no effect on goblet cell hyperplasia in colon and cecum ( $p > 0.05$ ). Based on Barthel Manja's final score, Blastocystis sp. had no effect on the degree of inflammation in the colon and cecum. The conclusion of this study is Blastocystis sp. only has effect on submucosal oedema, epithelial damage and PMN cell infiltration in the colon.*

**Keywords:** *Blastocystis sp., Histopathology, Barthel Manja*

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*Blastocystis sp.* adalah parasit protozoa usus dapat ditemukan di saluran usus manusia dan hewan. Gambaran terkait *Blastocystis sp.* seperti mual, anoreksia, diare, dan juga dikaitkan dengan kejadian *Inflammatory Bowel Disease* dan *Irritable Bowel Syndrome*. Patogenesitas *Blastocystis sp.* masih kontraversi, sehingga peneliti tertarik untuk melihat reaksi inflamasi yang ditimbulkan melalui perubahan histopatologi.

Jenis penelitian ini adalah *true experimental* dengan menggunakan pendekatan *post test only control group design*. Penelitian ini melibatkan 21 ekor tikus yang dibagi menjadi 3 kelompok (PI, PII, dan K). Kelompok PI diinokulasikan oral *Blastocystis sp.* dosis  $10^5$ . Kelompok PII diinokulasikan oral *Blastocystis sp.* dosis  $10^4$ . Kelompok K diberikan normal saline tanpa pemberian *Blastocystis sp.* Tikus diterminasi lalu diambil organ kolon dan sekum untuk dilakukan pemeriksaan histopatologi berdasarkan skoring modifikasi Barthel Manja.

Hasil penelitian berdasarkan uji *Chi-Square* menunjukkan bahwa terdapat pengaruh *Blastocystis sp.* yang signifikan ( $p < 0,05$ ) terhadap edema submukosa, infiltrasi sel PMN, dan kerusakan epitel di kolon, tetapi tidak berpengaruh terhadap hiperplasia sel goblet sekum dan kolon ( $p > 0,05$ ). Skor akhir Barthel Manja tidak terdapat pengaruh *Blastocystis sp.* terhadap derajat inflamasi di kolon dan sekum. Kesimpulan penelitian ini adalah pemberian *Blastocystis sp.* hanya berpengaruh terhadap edema submukosa, hiperplasia sel goblet, dan kerusakan epitel di kolon.

**Kata Kunci:** *Blastocystis sp.*, Histopatologi, Barthel Manja