

ABSTRAK

RESISTENSI *Escherichia coli* YANG DIISOLASI DARI KUCING DENGAN GANGGUAN PENCERNAAN DI YOGYAKARTA TERHADAP LIMA JENIS ANTIBIOTIK

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Kucing dengan gangguan pencernaan sering dikaitkan dengan infeksi *Escherichia coli* (*E. coli*), bakteri oportunistik yang dapat menjadi patogen dan mentransfer gen resistensi antibiotik secara horizontal. Penelitian ini bertujuan mengisolasi *E. coli* dari kucing dengan gangguan pencernaan serta mengevaluasi pola resistensinya. Sebanyak 39 sampel swab rektal dikumpulkan dari berbagai klinik hewan di Yogyakarta pada bulan Oktober hingga Desember 2024. Sampel diinokulasikan ke dalam *Brain Heart Infusion* (BHI) broth dan dikultur pada media *Eosin Methylene Blue* (EMB) agar untuk seleksi *E. coli*. Koloni dugaan *Escherichia coli* yang tumbuh pada media EMB berbentuk sirkular, berukuran 2-3 mm, dan memiliki warna *green metallic sheen*. Koloni dugaan *E. coli* kemudian diidentifikasi melalui pengecatan Gram, uji oksidase, dan uji katalase serta berbagai uji biokimia, seperti *Triple Sugar Iron Agar* (TSIA), IMViC, *Urease Agar*, serta uji fermentasi glukosa, sukrosa, dan laktosa. Hasil penelitian menunjukkan bahwa 22 dari 39 sampel (56,41%) positif *E. coli*, sedangkan 17 sampel lainnya (43,59%) negatif *E. coli*. Uji resistensi antibiotik dilakukan dengan metode difusi cakram Kirby-Bauer pada Mueller-Hinton Agar (MHA) menggunakan lima jenis antibiotik: *amoxicillin-clavulanate*, *enrofloxacin*, *cefotaxime*, *gentamicin*, dan *doxycycline*. Resistensi tertinggi ditemukan terhadap *doxycycline* (40,9%), diikuti oleh *gentamicin* (36,4%), *cefotaxime* (36,4%), dan *enrofloxacin* (27,3%), sedangkan resistensi terendah ditemukan terhadap *amoxicillin-clavulanate* (13,6%). Dari penelitian ini, dapat disimpulkan bahwa kejadian *colibacillosis* pada kucing dengan gangguan pencernaan cukup tinggi dan tingkat resistensi *E. coli* terhadap antibiotik bervariasi.

Kata kunci: *Escherichia coli*, kucing, resistensi antibiotik, gangguan pencernaan.

ABSTRACT

RESISTANCE OF *Escherichia coli* ISOLATED FROM CATS WITH DIGESTIVE DISORDERS IN YOGYAKARTA AGAINST FIVE TYPES OF ANTIBIOTICS

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Cats with digestive disorders are often associated with *Escherichia coli* (*E. coli*) infection, an opportunistic bacterium that can become pathogenic and transfer antibiotic resistance genes horizontally. This study aimed to isolate *E. coli* from cats with digestive disorders and evaluate its resistance patterns. A total of 39 rectal swab samples were collected from various animal clinics in Yogyakarta between October and December 2024. The samples were inoculated into Brain Heart Infusion (BHI) broth and cultured on Eosin Methylene Blue (EMB) agar for *E. coli* selection. Suspected *E. coli* colonies on EMB agar were circular, 2–3 mm in size, and exhibited a green metallic sheen. Suspected *E. coli* colonies were identified through Gram staining, oxidase and catalase tests, as well as various biochemical tests, including Triple Sugar Iron Agar (TSIA), IMViC, Urease Agar, and glucose, sucrose, and lactose fermentation tests. The results showed that 22 out of 39 samples (56.41%) were positive for *E. coli*, while 17 samples (43.59%) were negative. Antibiotic resistance testing was performed using the Kirby-Bauer disk diffusion method on Mueller-Hinton Agar (MHA) with five antibiotics: amoxicillin-clavulanate, enrofloxacin, cefotaxime, gentamicin, and doxycycline. The highest resistance was observed against doxycycline (40.9%), followed by gentamicin (36.4%), cefotaxime (36.4%), and enrofloxacin (27.3%), while the lowest resistance was found against amoxicillin-clavulanate (13.6%).

Keywords: *Escherichia coli*, cats, antibiotic resistance, digestive disorders.