

INTISARI

UJI RESISTENSI *Escherichia coli* YANG DIISOLASI DARI PASIEN ANJING ASAL KLINIK DAN RUMAH SAKIT HEWAN DI DAERAH ISTIMEWA YOGYAKARTA TERHADAP BERBAGAI ANTIBIOTIK

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Escherichia coli merupakan bakteri yang normal dijumpai pada saluran pencernaan anjing, namun pada strain patogenik dapat menyebabkan infeksi saluran pencernaan yang mengakibatkan diare, maupun penyakit lain. *E. coli* juga dikenal merupakan bakteri yang sudah resisten terhadap antibiotik, namun penelitian resistensi *E. coli* pada anjing belum banyak dilakukan. Tujuan penelitian ini untuk mengetahui resistensi bakteri *E. coli* dari pasien anjing di klinik dan rumah sakit hewan di Daerah Istimewa Yogyakarta terhadap berbagai antibiotik.

Penelitian ini menggunakan 45 isolat *E. coli* yang dikoleksi dari 85 sampel swab rektal pasien anjing di klinik dan rumah sakit hewan di Daerah Istimewa Yogyakarta yang diambil secara *random*. Sampel swab rektal kemudian ditanam pada media *Eosin Methylene Blue* (EMB). *E. coli* yang tumbuh selanjutnya diidentifikasi menggunakan uji biokimia pada *Triple Sugar Iron Agar* (TSIA) dan *Lysine Iron Agar* (LIA). Isolat *E. coli* kemudian ditanam pada media *Mueller-Hinton Agar* (MHA) dan dilakukan uji resistensi terhadap enam jenis antibiotik yaitu *Penicillin G*, *Ampicillin*, *Streptomycin*, *Neomycin*, *Tetracycline*, dan *Enrofloxacin*.

Hasil pengujian resistensi dari 45 isolat *E. coli* terhadap *Penicillin G* menunjukkan seluruh isolat resisten, terhadap *Ampicillin* sebanyak 16 isolat resisten, terhadap *Tetracycline* sebanyak 13 isolat resisten, terhadap *Streptomycin* sebanyak 11 isolat resisten, terhadap *Enrofloxacin* sebanyak 7 isolat resisten, namun tidak ditemukan isolat yang resisten terhadap *Neomycin*. Ditemukan juga sebanyak 6 isolat *E. coli* resisten terhadap 5 jenis antibiotik, 3 isolat resisten terhadap 4 jenis antibiotik, dan 5 isolat resisten terhadap 3 jenis antibiotik. Penelitian ini menunjukkan bahwa resistensi *E. coli* terhadap antibiotik dari pasien anjing di klinik dan rumah sakit hewan di wilayah Daerah Istimewa Yogyakarta berturut-turut yaitu *Penicillin G* sebesar 100%; *Ampicillin* 35.6%; *Tetracycline* 28.9%; *Streptomycin* 24.4%; *Enrofloxacin* 15.6%; dan ditemukan isolat yang resisten terhadap beberapa antibiotik.

Kata kunci: Resistensi, *Escherichia coli*, anjing, antibiotik, Daerah Istimewa Yogyakarta

ABSTRACT

RESISTANCE TEST OF *Escherichia coli* ISOLATED FROM DOGS AT CLINICS AND ANIMAL HOSPITAL IN THE SPECIAL REGION OF YOGYAKARTA AGAINST VARIOUS ANTIBIOTICS

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Escherichia coli is a bacteria that is normally found in the digestive tract of dogs, however, pathogenic strains can cause digestive tract infections which cause diarrhea and other diseases. *E.coli* is also known as a bacteria that is resistant to antibiotics, but the resistance of *E.coli* in dogs has not been widely studied. The purpose of this study was to determine the resistance of *E. coli* bacteria from dog patients in clinics and veterinary hospital in the Special Region of Yogyakarta to various antibiotics.

This study used 45 bacterial isolates of *E. coli* collected from 85 rectal swab samples from dog patients in clinics and veterinary hospital in the Special Region of Yogyakarta, taken randomly. The rectal swab sample were then cultured on Eosin Methylene Blue (EMB) medium. The *E. coli* that grew were further identified using biochemical tests on Triple Sugar Iron Agar (TSIA) and Lysine Iron Agar (LIA). *E. coli* isolates were then cultured on Mueller-Hinton Agar (MHA) medium and tested for resistance against six antibiotics, Penicillin G, Ampicillin, Streptomycin, Neomycin, Tetracycline, and Enrofloxacin.

The results of resistance testing of 45 *E.coli* isolates against Penicillin G showed that all isolates were resistant, 16 isolates were resistant against Ampicillin, 13 isolates were resistant against Tetracycline, 11 isolates were resistant against Streptomycin, 7 isolates were resistant against Enrofloxacin, but there is no resistance isolates were found against Neomycin. It was also found that 6 isolates of *E. coli* were resistant to 5 types of antibiotics, 3 isolates were resistant to 4 types of antibiotics, and 5 isolates were resistant to 3 types of antibiotics. This study showed that the resistance of *E.coli* to antibiotics in dog patients in clinics and veterinary hospitals in the Special Region of Yogyakarta was as follows: Penicillin G 100%; Ampicillin 35.6%; Tetracycline 28.9%; Streptomycin 24.4%; Enrofloxacin 15.6%; and found isolates that are resistant to several antibiotics.

Keywords: Resistances, *Escherichia coli*, dogs, antibiotics, Special Region of Yogyakarta