INTISARI

Identifikasi dan Uji Sensitivitas Antibiotik terhadap Isolat Enterokokus Asal Daging Broiler dari Supermarket di Kabupaten Sleman, Yogyakarta

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Enterokokus merupakan bakteri asal pencernaan yang sering mengkontaminasi daging broiler di sepanjang rantai suplai pangan. Enterokokus yang mencemari daging ayam berpotensi memindahkan gen resistensi antibiotik kepada bakteri lain khususnya patogen yang menginfeksi manusia. Sejumlah studi bakteri resisten antibiotik pada daging broiler dari ritel di Yogyakarta telah dilaporkan, namun pada bakteri enterokokus belum tersedia. Penelitian ini bertujuan untuk mengetahui gambaran cemaran enterokokus pada daging broiler asal supermarket di Sleman, Yogyakarta dan sensitivitasnya terhadap beberapa antibiotik.

Sampel dalam studi ini adalah daging broiler (*whole chicken*) sebanyak 48 ekor yang dikoleksi dari beberapa supermarket di kabupaten Sleman, Yogyakarta. Pengujian dalam studi ini diawali dengan isolasi bakteri pada media *enterococcosel agar,* kemudian dilakukan identifikasi enterokokus dengan *polymerase chain reaction*. Sebanyak 6 koloni presumptif per sampel daging broiler sumber isolat diidentifikasi dengan PCR. Uji sensitivitas antibiotik dilakukan pada spesies enterokokus yang teridentifikasi, dengan metode *disk difusion*.

Hasil PCR pada sampel studi ini menunjukkan bahwa genus enterokokus teridentifikasi pada isolat semua sampel daging broiler (48/48). *Enterococcus faecalis* teridentifikasi pada 8,33% (4/48) sampel daging sumber isolat, *Enterococcus faecium* pada 33,33% (16/48) sampel daging sumber isolat, sedangkan *E. faecalis dan E. faecium* teridentifikasi pada isolat tiap sampel daging broiler sumber isolat pada sebanyak 54,16% (26/48) sampel. Uji sensitivitas antibiotik pada 33 isolat *E. faecium* dan 22 isolat *E. faecalis* menunjukkan bahwa 87,88% (29/33) isolat *E. faecium* dan 95,45% (21/22) isolat *E. faecalis* sensitif terhadap ampisilin. Sebanyak 36,36% (12/33) isolat *E. faecium* dan 50% (11/22) isolat *E. faecalis* sensitif terhadap tetrasiklin. Sebanyak 18,18% (6/33) isolat *E. faecium* dan 22,73% (5/22) *E. faecalis* sensitif terhadap eritromisin. Semua isolat *E. faecium* dan *E. faecalis* sensitif terhadap vankomisin. Studi ini menunjukkan tingkat kontaminasi enterokokus yang tinggi pada sampel daging broiler ini. Isolat enterokokus dalam studi ini menunjukkan sensitivitas yang tinggi terhadap vankomisin dan ampisilin, namun sensitivitas yang rendah terhadap tetrasiklin dan eritromisin. Isolat *E. faecalis* memiliki sensitivitas yang lebih tinggi dari *E. faecium* pada studi ini.

Kata kunci: Enterokokus, daging broiler, kontaminasi, antibiotik, resistensi

ABSTRACT

Identification and Antibiotic Sensitivity Testing of Enterococcus Isolates from Broiler Meat from Supermarkets in Sleman Regency, Yogyakarta

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Enterococci are bacteria of digestive origin that frequently contaminate broiler meat along the food supply chain. Enterococci that contaminate chicken meat have the potential to transfer antibiotic resistance genes to other bacteria, especially pathogens that infect humans. Several studies of antibiotic-resistant bacteria in broiler meat from retailers in Yogyakarta have been reported, but those on enterococcus bacteria are not yet available. This study aims to describe enterococcus contamination in broiler meat from supermarkets in Sleman and also its resistance profile to several antibiotics.

The samples in this study were 48 broiler meat (whole chicken) collected from supermarkets in Sleman district, Yogyakarta. Testing in this study began with bacterial isolation on enterococcosel agar media, then identification of enterococci was carried out using polymerase chain reaction. A total of 6 presumptive colonies per sample of broiler meat of isolates source were identified using PCR. Antibiotic sensitivity tests were carried out on identified enterococcal species, using the disk diffusion method.

PCR test showed that the enterococcus genus was identified in isolates of all broiler meat samples of the isolate source (48/48). *Enterococcus faecalis* was identified in 8.33% (4/48) of meat samples of isolates source, *Enterococcus faecium* in 33.33% (16/48) of meat samples as source of isolates, while *E. faecalis* and *E. faecium* were identified in isolates of each broiler meat sample of isolates source in 54.16% (26/48) of samples. Antibiotic sensitivity tests on 33 *E. faecium* isolates and 22 *E. faecalis* isolates showed that 87.88% (29/33) of *E. faecium* isolates and 95.45% (21/22) of *E. faecalis* isolates were sensitive to ampicillin. A total of 36.36% (12/33) of *E. faecium* isolates and 50% (11/22) of *E. faecalis* isolates were sensitive to tetracycline. A total of 18.18% (6/33) of *E. faecium* isolates and 22.73% (5/22) of *E. faecalis* isolates were sensitive to erythromycin. All isolates of *E. faecium* and *E. faecalis* were sensitive to vancomycin. This study showed a high level of enterococcal contamination in broiler meat samples. Enterococcal isolates in this study showed higher sensitivity to vancomycin and ampicillin, but low sensitivity to tetracycline and erythromycin. *Enterococcus faecalis* isolates had higher sensitivity than *E. faecium* in this study.

Keywords: Enterococcus, broiler meat, contamination, antibiotics, resistance