Isolasi dan Identifikasi *Avibacterium paragallinarum* dari *Broiler* yang Menunjukkan Gejala *Snot*

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INTISARI

Snot (*Infetious Coryza*) merupakan penyakit respirasi bagian atas ayam yang disebabkan oleh *Avibacterium paragallinarum*. Kerugian utama yang ditimbulkan penyakit *snot* adalah menurunnya produksi telur hingga 40% pada *layer* dan meningkatnya afkir dini *broiler*. *Snot* sudah banyak dilaporkan menyerang unggas di Indonesia dan negara-negara lainnya, namun penelitian tentang *Av. paragallinarum* dari *broiler* masih sangat sedikit. Penelitian ini bertujuan untuk mengisolasi dan mengidentifikasi *Av. paragallinarum* dari *broiler* yang menunjukkan gejala *snot*, serta mengetahui sifat dependensi *Av. paragallinarum* terhadap NAD (*Nicotinamide Adenin Dinucleotide*) sebagai faktor pertumbuhan.

Tiga ekor ayam dari peternakan di Makassar dan empat ekor ayam dari peternakan di Kupang digunakan dalam penelitian ini. Ayam menunjukkan gejala *snot* seperti kebengkakan muka, leleran dari sinus nasal, bersin dan sering terlihat bernapas dengan mulut. Sampel yang digunakan berupa leleran nasal dari ayam yang menunjukkan gejala *snot*. Leleran nasal diambil dengan *swab* steril kemudian dikultur ke media plat agar coklat (PAC). Media diinkubasi selama 24 sampai dengan 48 jam pada temperatur 37 ºC dalam kondisi mikroaerofilik menggunakan sungkup lilin. Koloni yang diduga *Av. paragallinarum*, yaitu koloni transparan seperti tetes embun, dilakukan pengecatan Gram kemudian diuji biokimia meliputi uji katalase, uji oksidase, uji motilitas, uji urease, uji indole serta pengujian fermentasi karbohidrat. Isolat yang teridentifikasi sebagai *Av. paragallinarum* dikultur ke plat agar darah bersama dengan *Staphylococcus sp*. dengan metode *cross-streak* untuk melihat sifat dependensi *Av. paragallinarum* terhadap NAD sebagai faktor penunjang pertumbuhan bakteri.

Hasil penelitian diperoleh empat isolat dari tujuh sampel yang digunakan (57%) teridentifikasi *Av. paragallinarum*. Tiga dari empat isolat *Av. paragallinarum* (75%) bersifat NAD-*independent*.

Kata kunci: *Avibacterium paragallinarum, broiler, coryza, snot*

Isolation and Identification of *Avibacterium paragallinarum* from Broilers Showing Clinical Signs of Snot

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ABSTRACT

Snot (Infectious Coryza) is one of upper respiratory disease in chicken caused by *Avibacterium paragallinarum*. The disease leads to a drop in egg production up to 40% in layer hens and increased culling in broilers. Snot has been reported infecting chickens in Indonesia as well as other countries, however, there is very limited research of *Av. paragallinarum* from broiler showing clinical signs of snot. The objective of this study is to attempt isolation and identification of *Av. paragallinarum* from broiler showing clinical signs of snot, and to identify the dependency of *Av. paragallinarum* to Nicotinamide Adenine Denucleotide (NAD) requirement as its growth factor.

Three chickens from a farm in Makassar and four chickens from Kupang were used in this study. The chickens were clinically showing signs of snot, characterized by fascial swelling, nasal discharge, sneezing and open-mouth breathing. Nasal discharges from broilers that clinically displaying signs of snot were used as sample. Nasal discharges were collected from every chickens using sterile swab and each were streaked on chocolate agar plate. The plates were incubated microaerophilically inside a candle jar at 37 ºC for 24-48 hours. Suspected colonies of *Av. paragallinarum* (i.e. transparent, dewdrop colonies) were confirmed by Gram's staining as Gram negative coccobacili and tested for biochemical properties, including catalase, oxidase, motility, urease, indole and carbohydrates fermentation test. Cross-streaked of isolate with *Staphylococcus sp.* on blood agar plate were carried out to identify the dependency of isolates to NAD requirement as growth factor.

Study result revealed four isolates from seven samples (57%) were identified as *Av. paragallinarum*. Three of four isolates of *Av. paragallinarum* (75%) were found to be NAD-independent.

Keywords: *Avibacterium paragallinarum*, broiler, coryza, snot