DETECTION OF TEM AND SHV *EXTENDED-SPECTRUM BETA-LACTAMASE* GENES IN *KLEBSIELLA PNEUMONIAE* ISOLATED FROM BEEF IN SELECTED MARKETS IN SURABAYA

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ABSTRACT

Klebsiella pneumoniae is one of the most contaminant bacteria found in animal originated food, especially meat. The main source of *K. pneumoniae* contamination is feces. *K. pneumoniae* is also known as an antimicrobial resistant bacteria caused issues globally. The most commonly found genes of ESBL are TEM and SHV. The aims of this study was to determine the presence of *K.pneumoniae* contaminant in beef sold in markets in Surabaya and to detect the presence of TEM and SHV genes. The susceptibility to five antibiotics were also tested using Kirby-Bauer immune diffusion methode, includes amoxycillin, amoxycillin-clavulonic acid, cefotaxime, tetracycline, and meropenem. Thirty beef samples were collected from 10 wet- and supermarkets in Surabaya. Isolation and identification of *K. pneumoniae* were done using bacteriological culture and biochemically characterisation. In this study, five (16.67 %) out of 30 samples obtained from traditional markets were positively contain *K. pneumoniae,* while none of supermarket samples. Three samples (60%) are resistant to amoxcycillin while the rest were intermediate resistant. Sensitive results were found towards amoxycillin-clavulanic acid, cefotaxime, tetracycline and meropenem. The result of PCR showed that of all five samples (100%) has TEM gene, however the presence of SHV gene is only found in four samples (80%).

Keywords: *Klebsiella pneumoniae*, ESBL, TEM, SHV