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Prevalence and characteristics of verotoxigenic producing *Escherichia coli* O157:H7 isolated from goats and cattle carcasses in Tanzania

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Introduction: Verotoxigenic producing *Escherichia coli* (VTEC) has been implicated as the causative agent in several human diseases. These diseases range from mild diarrhea to very severe and life-threatening conditions, such as hemolytic-uremic syndrome (HUS). The VTEC strain most frequently associated with clinical disease in the United States is serotype O157:H7.

Materials and Methods: The prevalence of Verotoxigenic producing *Escherichia coli* (VTEC) in cattle and goats carcasses were investigated between September 2002 and December to June 2003 by cultural and immunomagnetic separation technique. A total of 167 *Escherichia coli* colonies from carcasses of cattle (300), and goat (263), from Morogoro and Dar-es-salaam were isolated in this study.

Results: STEC O157 strains were recovered from 17 (5.67%) cattle carcasses and none from goats. Of 167 *E. coli* strains, 17 were grouped into sorbitol non-fermenting and glucuronide negative and 29 strains were sorbitol positive and glucuronide positive. The remaining 38 were sorbitol negative and glucuronide positive. Using reversed passive latex agglutination kit from Denka Japan indicated that all isolates produced verotoxin. Further characterization of the VTEC isolates showed that 1(4%) of the bovine VTEC strains was positive only for *stx1*. *Stx2* gene alone was detected in 4 (20%) of bovine isolate. Both *stx1* and *stx2* gene were present in one (4%) of bovine isolates. Eae A was detected in 4 (20) of bovine isolates. *Stx 1*, *stx2* eae A and *Ehly* A were present in one (4%) bovine isolates. The VTEC O157 isolates were resistance to gentamicine, chloramphenicol, streptomycin, and amoxsylav.

Conclusion: This study is the first attempt to investigate the prevalence of VTEC O157 in goats and cattle carcarsses in Tanzania.

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