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A potential cholera epidemic source: Some fresh vegetables in Gombe

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Cholera is one of the oldest and best understood of the epidemic-prone disease. The classical cause of epidemic cholera possesses the O1 antigen. Most of the reported outbreaks of gastrointestinal disease are linked to the consumption of fresh produce contaminated by bacteria. It is in view of these, the research wishes to determine the presence of *Vibrio cholerae*, in fresh vegetables sold and consumed in Gombe metropolis, Nigeria, and for that purpose isolate, characterize and identify various biotypes. A total of 184 vegetable samples consisting of 3 vegetable types; Cabbage (*Bressica oleracea* L.), Lettuce (*Lactuca sativa* L.) and Tomato (*Solanum lycopersicum* Mill.) were collected from Shongo, Gombe Main and Gombe Old markets, during the month of August. Samples were grown on Thiosulfate Citrate Bile-salt-sucrose agar (TCBS) and subjected to Gram's stain and standard biochemical tests which include, triple sugar iron (TSI) cytochrome oxidase test, arginine dihydrolase test, lysine and ornithine decarboxylase, cells grown in 0, 6, 8 and 10% (wt./vol.) NaCl for 7 days, acid production from 1% arabinose and lactose fermentation, Voges-Proskauer and methyl red, capsule stain, cholera red test and citrate utilization. Among sampled analyzed (184), 59.24% of the samples showed growth on TCBS agar, out of which 73.39% had yellow colonial growth. 16.25% of the yellow colonies were confirmed *Vibrio cholera*. The *Vibrio cholera* identified were further screened, results showed 23.08% each of O139 and O1 Eltor biotypes, while other Vibrios biotypes were 53.85%. Lettuce sample had higher percentage of yellow growth on TCBS of 89.13%, while tomatoes sample had highest percentage of confirmed of (22.73%) *Vibrio cholerae*. Vibrio isolates from cabbage were 50% each of O139 and O1 Eltor biotypes. The different biotypes observed among samples, indicating close association between the vegetables and this pathogenic species and its biotypes; thereby possess the risk of cholera not only at sporadic cases but of epidemics capacity, in Gombe and to the entire people of North Eastern Nigeria.

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