



الدراسات العليا



Prevalence of Clostridium Difficile among Hospitalized Patients Using Antibiotics in Fayoum University Hospitals

Thesis submitted for partial fulfillment of the Master's degree in Clinical and Chemical pathology

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2024

Summary

The *Clostridium difficile* infection (CDI) is a serious healthcare-associated infection that is especially prevalent in developing countries. *C. difficile* is classified as toxigenic or non-toxigenic according to its capacity to produce toxins.

Our study aim is to determine the prevalence *Clostridium Difficile* among hospitalized patients using antibiotics in Fayoum university hospitals.

It is a cross-sectional study conducted on a total of 90 subjects attended to Fayoum university hospitals. Stool samples were collected from hospitalized patients suffering from any symptoms of *clostridium difficile* and were subjective to direct toxin A & B detection by ELISA (enzyme-linked immunosorbent test).

All samples were processed in the clinical microbiology lab in Clinical and Chemical Pathology Department, Faculty of Medicine, Fayoum University according to standard microbiology procedures.

All patients were subjected to the following: Personal and clinical history including demographic data (age and sex), Presence or absence of hypertension, DM, liver disease, renal disease and immunological disease, Blood chemistry including: ALT, AST, total & direct bilirubin, albumin, total protein, Na, K, urea and creatinine), Full blood examination including: (TLC, Hb, platelets), Coagulation profile, CRP and ESR tests. Clinical assessment at admission, during hospitalization.

The prevalence of *Clostridium Difficile* among Hospitalized Patients was found to be 5.6 % (5 out of 90) which is low, this might be the outcome of our hospital's strict antibiotic policy and surveillance measures.

The study's findings indicated that the positive cases did not exhibit any

gender or age preference.

Positive cases with associated comorbidities showed no statistically significant increase in the risk of *C. difficile* infection development.

The most prevalent symptoms among positive cases with no significant difference, were fever (100%), watery diarrhea (80%), and abdominal pain (60%).

Usually, diarrhea is associated with CDI but We presented a case that was positive for toxin A & B without suffering from diarrhea, only had fever and vomiting

There was no statistically significant of duration of hospital stay in relation to increase of CDI.

All positive cases showed anemia vary from mild to moderate, high mean of CRP and no significant difference in all other laboratory investigations.

Meropenem was the most commonly used antibiotic associated with *C. difficile* infection followed by cefepime, ceftriaxone, Aztreonam, tigecycline but with no statistically significant difference.

The relation of CDI to multiple antibiotics using is statistically insignificant which may be due to that most of our cases used more than one antibiotic in their treatment course.