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# The Carbapenamase producing Enterobacteriaceae from Clinical and Environmental Settings

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The Carbapenemases are a family of germs that are difficult to treat because they have a high level of resistance to antibiotics. Carbapenems are a type of antibiotic used to treat severe infections, which is the last treatment option for serious infections caused by gram-positive and gram-negative bacteria. The organisms are both found in the clinical and environmental settings. They include common bacteria like *Escherichia coli*, *Klebsiella* spp., *Salmonella* spp. and *Pseudomonas aeruginosa*. They are found in the Gastrointestinal tract, urinary tract wounds and cause sepsis and pneumonia. Transmission is likely via direct or indirect contact. Carbapenamase-producing Enterobacteriaceae refers to a group of multi drug resistant organisms, resistant to all Beta-lactams and often others. This gives a clear overview of the Carbapenemase- producing Enterobacteriaceae and resistant to the molecular classes of carbapenem such as A, B and D. Knowing the type is crucial of carbapenemase for therapeutical purposes, infection control, outbreaks. The classification and types, detection of Carbapenemase, management in clinical and environmental settings. Different enzymes require different antibiotic regimens and some enzymes can more easily be spread through a network of hospital. There are devices for detection of carbapenamase like CARBA 5 Test which is a new era of early detection of drug resistance genes, it is rapid and obtained results within 3 days earlier than traditional detection methods. This also explains the Carbapenemase- Resistant Enterobacteriaceae which refers to the resistance phenotype and the Carbapenamase producing bacteria is defined by the mechanism underlying the phenotype.

**Keywords:** Carbapenem antibiotic, Carba 5 Test, Enterobacteriaceae family, Multidrug resistance organism, Resistant phenotype

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