

Challenges in Antibiotic Resistance: Non-Fermenting Gram Negative Bacteria

Glossary

Aerobic bacteria - bacteria which require oxygen for survival.

Antimicrobial susceptibility - the sensitivity (as opposed to resistance) of microorganisms to defined antimicrobials.

Arterial partial pressure of carbon dioxide (PaCO₂) - the measure of carbon dioxide within arterial blood.

Asymptomatic - (of a person) not showing any symptoms associated with a disease.

Azotemia - when the kidneys have been damaged by injury or disease and are no longer able to remove enough nitrogen waste.

Biofilm - the build-up of clusters of microorganisms (e.g. bacteria), on a surface, within a matrix composed of proteins, polysaccharides and DNA.

Broad-spectrum antibiotics - antibiotics that are effective against a wide number of bacterial types and are often used when the infecting pathogen is unknown.

Chronic illnesses - disease lasting for more than three months.

Computed tomography (CT) - a form of medical imaging which uses X-rays and a computer to create images of the inside of the body (e.g. the lungs).

Costovertebral angle - the angle formed, on either side of the human back, between the 12th rib and the spinal/vertebral column.

Cystic fibrosis - an inherited disease affecting the lungs and gastrointestinal system.

Dipstick (urinalysis) - a strip of paper (with chemicals at fixed positions) dipped into urine samples to test the urine (sometimes called a rapid urine test).

Dysuria - pain or discomfort when urinating.

Endocarditis - inflammation of the heart's inner lining (the endocardium).

Epidemiology - the study of the distribution and determinants (causes, risk factors) of health-related states and events (including but not limited to diseases) in set populations.

Extrapulmonary - existing or occurring outside of the lungs.

Flank pain - pain/discomfort in upper abdomen or back and sides.

Horizontal gene transfer (HGT) - describes the movement of genetic material (containing e.g. resistance genes) between organisms by means other than vertical transfer (parent to “daughter” cell via reproduction). Also known as lateral gene transfer.

Hospital-acquired infections - are infections which are not present at the time of admission to a hospital (or any other healthcare facility), and are acquired as a result of hospital care and/or stay. Also known as healthcare-associated infections.

Hyperventilation - rapid, and deep, breathing.

Hypothermia - a dangerously low body temperature, resulting when the body’s heat loss is greater than its heat production.

Hypoxemia - low oxygen level in the blood.

Immunocompromised - (of a patient) with a weakened immune system (immunodeficiency), increasing susceptibility to infections and disease. This can be the result of certain treatments (e.g. immunosuppressant medication) or existing medical conditions.

Infiltrate - the material which collects in tissues or cells (e.g. in the lungs) due to accumulation (infiltration).

Intrinsic resistance - a resistance trait shared universally within a bacterial species; it is independent of previous antibiotic exposure and horizontal gene transfer.

In vitro diagnostics - (laboratory) tests done on samples such as blood or tissue that have been taken from the human body.

Legionellosis - an umbrella term for the group of diseases associated with infection by bacteria of *Legionella* genus.

Legionnaires’ disease - a form of pneumonia caused by the *Legionella* spp.

Leukocytosis - white cell/leukocyte count which is above the normal range in the blood.

Leukopenia - a reduced number of white blood cells (leukocytes).

Neutrophils - a type of white blood cell (WBC) involved in the body’s immune response.

Obstructive uropathy - an obstruction along the urinary tract/system which completely or partially prevents the flow of urine.

Opportunistic pathogen - a pathogen that does not infect healthy hosts, but causes infections in the immunocompromised or those with underlying diseases.

Pathogenicity - the capacity of a microorganism to cause disease/damage to the infected host.

Pericarditis - an inflammation of the sac-like tissue around the heart (the pericardium).

Peripheral blood smear - a technique in which a blood sample is viewed under a microscope to count blood cells and check their appearance.

Phage Therapy - the therapeutic use of bacteriophages (a type of virus) to treat bacterial infections.

Phenotypic characteristics - observable, measurable characteristics (e.g. flagella).

Pleomorphism - the ability (of a bacterium) to alter its morphology and functions to suit different environmental conditions.

Polar-flagellation - production of flagella (protein structures used for movement) exclusively at bacterial poles (ends).

Rapid diagnostic tests (RDTs) - a type of point-of-care testing where diagnostic results can be provided almost immediately to the patient, e.g. in a primary care facility.

Septicaemia - “blood poisoning” in which invading pathogens (termed bacteraemia if bacterial) enter the bloodstream, triggering the clinical diagnosis of sepsis.

Tachycardia - characterised by an abnormally fast heart rate (beats per minute/bpm).

Transmissibility - a pathogen’s capacity to pass (spread) from organism-to-organism.

Transmission - (of infectious diseases) the spread from one organism to another.

Tympanic - of, or relating to, the ear’s tympanic membrane.

Urinary retention - the inability to completely empty all the urine in the bladder, resulting in residual urine after voiding (urination).

Urinary tract - the body's system for removing urine (fluid + other waste). It consists of: two kidneys, two ureters, a bladder, and a urethra.

Zoonosis - transmission of disease to a human host from a non-human animal.