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Relationships between mobile genetic elements, antimicrobial resistance, and virulence in clinically relevant *Acinetobacter baumannii* isolates

by Rodrigo Pimenta de Oliveira Monteiro

1. *Acinetobacter baumannii* is a bacterial kleptomaniac that exchanges virulence genes with other bacteria as kids once traded Pokémon cards, "it shuffles, deletes, or reorganizes them to craftily evade the host's immune system." - The Perfect Predator
2. Resilience allowed *A. baumannii* to become a dangerous pathogen (Chapter 1).
3. The high prevalence of prophages among *A. baumannii* species is driving bacterial evolution towards pathogenicity (Chapter 2).
4. The SOS responses in *Acinetobacter baumannii* and the well-studied model bacterium *Escherichia coli* are different (Chapter 3).
5. The DdrR protein of *A. baumannii* is involved in the expression of a wide range of genes, ranging from genes that participate in the SOS response to genes involved in virulence and prophage activity (Chapter 3).
6. Antibiotic misuse in the post-COVID era has led to the emergence of new antibiotic-resistant *A. baumannii* variants and hard-to-eradicate hospital outbreaks (Chapters 1 and 4).
7. Outer membrane vesicles (OMVs) are the 'Swiss army knife' of Gram-negative bacteria (Chapters 5 and 6).
8. The presence of several mobile genetic elements, such as plasmids and prophages, apparently increases the virulence of clinical *A. baumannii* isolates (Chapter 6).
9. The OMV content is greatly influenced by the environment in which OMV-producing bacteria are growing, leading to the release of vesicles that are adapted to the needs of their producer (Chapter 6).
10. Looking always on the bright side of things may not solve the problems but, surely, it will make them easier to handle.