A brief history of the antibiotic era: lessons learned and challenges for the future.

This article gives a very brief overview of the antibiotic era, beginning from the discovery of first antibiotics until the present day situation, which is marred by the emergence of hard-to-treat multiple antibiotic-resistant infections. The ways of responding to the antibiotic resistance challenges such as the development of novel strategies in the search for new antimicrobials, designing more effective preventive measures and, importantly, better understanding the ecology of antibiotics and antibiotic resistance are discussed. The expansion of conceptual frameworks based on recent developments in the field of antimicrobials, antibiotic resistance, and chemotherapy is also discussed.