Abstract JS FRENEL

Antibody-drug conjugates (ADCs) offer a promising cancer therapy by delivering toxic agents directly to cancer cells through antigen-specific monoclonal antibodies (mAbs). Currently, 15 ADCs are approved, with over 100 candidates in clinical trials. They have revolutionized cancer treatment, notably with trastuzumab deruxtecan for HER2-expressing breast cancer. ADCs typically use microtubule-targeting and DNA-damaging agents, but face challenges like toxicity and drug resistance. ADCs target, primarily HER2 and TROP2 will expand exponentially. Recent advancements focus on optimizing dosage, treatment schedules, and ADC components, and identifying predictive biomarkers for toxicity. Integrating innovative payloads like immunomodulators and PROTACs, as well as using bispecific antibodies for superior internalization and selectivity, can enhance ADC safety and efficacy. Novel ADCs, with advanced engineering, show potential for histology-agnostic treatments, broadening their application across various cancer types. Given the rapid expansion of clinical indications for ADCs, including their use in curative settings and various combinations, extensive efforts are ongoing to enhance their safety and determine the optimal sequencing of ADCs. All these aspects will be discussed.