ABSTRACT BOOK ABSTRACTS



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HISTORY OF DERMATOLOGY

'IT WOULD BE AS DIFFICULT TO REJECT THE RIGHT EAR AND HAVE THE LEFT EAR INTACT AS IT IS TO IMMUNISE AGAINST CANCER!' A HISTORY OF IMMUNOTHERAPY.

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Background: The first publication in cancer immunotherapy came in 1893, with the pioneering work of New York surgeon, William B. Coley

Observation: Coley observed a cancer patient develop complete remission of their cancer following two attacks of erysipelas, caused by Streptococcus pyogenes. Coley subsequently injected streptococcal bacteria, provided by Robert Koch, into patients with primary inoperable sarcoma. He published a cure rate above 10%, but immunotherapy remained dormant. Coley's successes were sporadic, difficult to reproduce, and at the time, lacked a solid theoretical foundation. In a major review in 1929, Woglom opined "it would be as difficult to reject the right ear and leave the left ear intact as it is to immunise against cancer."

In 1909, Ehrlich proposed that neoplasms must be recognised by the immune system otherwise they would occur at an 'overwhelming frequency'. A study showing comparable tumour incidence in athymic mice seemed to disprove this as at this point it wasn't recognised that athymic mice still possess functional T-cells. Although Burbnet reported 'self-tolerance', he also championed 'immunosurveillance', later supported by the findings of immunogenic cancers and autoreactive T-cells escaping thymic deletion. Immunotherapy was back on the list of potential anticancer therapies.

Melanoma is highly immunogenic and has the highest frequency of mutations of all cancers. IL-2 was shown to expand T-cells with antitumor activity in vitro and in vivo, but efficacy was modest. Interferon also had limited effects. However, in recent years, more specific immunotherapies with anti-cytotoxic T-lymphocyte-associated antigen 4 (CTLA-4) and/or anti-programmed death 1 (PD-1) agents have become the standard of care for metastatic melanoma, along with targeted therapies.

Key message: Newer immunotherapies have improved the overall survival for metastatic melanoma for the first time in history, and are a culmination of our developed immunology knowledge.





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