CUTANEOUS MALIGNANCY

Introduction

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Every review of the modern history of cancer research that does not involve black humors begins with skin. Much of the current cancer lexicon used casually when discussing human cancer pathogenesis is derived from studies of human or rodent skin. Furthermore, the three major cancer-causing environmental agents, UV light, fossil fuel combustion products, and papilloma viruses, were recognized by astute clinicians and experimental biologists because they produced skin tumors. In fact, were it not for clinical observations and experimental studies of skin, whole fields now considered intimately involved in cancer development and progression would have been delayed or unrecognized. Such is the case for example of inflammation and the importance of immune function. It is because these vital contributions of skin research advanced cancer research that the *Journal of Investigative Dermatology* chose to make this a subject of its Milestones feature. The following sections will outline some of the pioneering skin research that led to our current understanding of cancer pathogenesis and the pathogenesis of other human diseases. Here we discuss the basic biology of chemically induced tumors on mouse skin that revealed the sequential multistage nature of cancer development now recognized for virtually all human epithelial cancers. The importance of DNA repair for cancer risk, the incredible story of sonic hedgehog signaling in basal cell carcinoma, the most common human cancer, now recognized more broadly in many other target organs, the widespread influence of inflammation with specific positive and negative contributions by each component of the immune system, and the expanding recognition of the viral etiology of multiple cancer types are presented. This feature is not designed to be a comprehensive review of each topic but rather to give the historical context in which key observations were made that opened the doors and illuminated the path to enormous insights.