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Editorial

Thalidomide: Between Criticism and Appraisal

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In the 1950s, Thalidomide was synthesized in West Germany and it was first described as a promising sedative and hypnotic agent compared to barbiturates. After that, it was prescribed to alleviate nausea associated with pregnancy [1]. The drug gained a worldwide popularity as it was used as one of the over the counter drugs (OTC). Unfortunately, the world witnessed a thalidomide disaster; Phocomelia (absent long bones) was a catastrophic teratogenic effect for thalidomide use during pregnancy in addition the drug was associated with other cardiac and eye malformations [2]. About 10,000 infants were born with phocomelia due to thalidomide, so the drug never received the FDA approval and it was withdrawn from the market by 1961 [3].

Few years later, researchers come back to appraise the role of thalidomide and the FDA approved the drug in 1998 for management of erythema nodosum leprosum [4]. This drug approval was conditional on firm rules to avoid the risk of birth defects. The FDA announced that thalidomide use should be monitored through Risk Evaluation and Mitigation strategies (REMS) program to guarantee the proper use of the drug during pregnancy [5]. Several attempts were done to ensure its safety and efficacy in management of leprosy [6].

Recently, clinical trials have focused on the role of thalidomide in multiple myeloma [7]. Multiple myeloma is a type of cancer directed against plasma cell; normal plasma cells produce antibodies to fight infection. In multiple myeloma, abnormal plasma cells are produced and abnormal antibodies (M protein) tend to accumulate in the body causing various organ damage [8]. Thalidomide acts as an immunomodulatory and antiangiogenic agent by enhancing the ability of T cells and natural killer cells against cancer and inhibiting blood vessel proliferation required for cancer cell survival [9].

Thalidomide and its more potent analogues; lenalidomide and pomalidomide were approved for management of multiple myeloma [10].

Future researches will be required to elucidate the exact mechanism and adverse effects of thalidomide and its derivatives in management of cancer.

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