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Cancer stem cell: A new paradigm shift in silibinin efficacy to control colorectal cancer

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Colorectal cancer (CRC) is second leading cause of cancer-related deaths in US. Cancer stem cells (CSC), now recognized as main cause for initiation, promotion and progression of CRC, are inherently resistant to chemo- and radio-therapies which has been the major cause of failure to most of the current therapies. Thus, discovery and development of agents, especially chemopreventive agents, which also target both 'initiated' stem cells and colon CSC, might provide better opportunities to control CRC at both early and advanced stages. We have recently reported the strong preventive and therapeutic efficacy of silibinin in different CRC pre-clinical models. Accordingly, here we assessed silibinin effect on colon CSC and associated mechanisms. The growth kinetics and cycling properties of colon CSC enriched spheres indicated a significant but differential inhibitory effect of silibinin on three different human CRC cell lines. Differentiation assays of these spheroids under serum conditions indicated the formation of more differentiated clones by silibinin treatment. Mechanistic studies showed that silibinin significantly decreases CSC marker CD44 mRNA expression, Notch-mediated signaling, and protein levels of cleaved Notch and its transcriptional target Hes-1. The implications of such an effect are tremendous, since the disruption of homeostasis (regulated in part by Notch signaling) among stem cells and progenitor cells in intestinal region results in the expansion of CSC pool together with an increase in proliferative cell populations. In summary, these results together with our earlier findings further support the clinical usefulness of silibinin in human CRC control.

Biography

Rajesh Agarwal has studied cancer chemoprevention in a wide range of epithelial cancer models including skin, prostate, breast, lung, bladder, colon, etc. for more than 25 years, during which time he has authored more than 320 peer-reviewed publications. He has served (or presently serving) on the editorial boards for the *Cancer Research*, *Cancer Prevention Research*, *Molecular Cancer Therapeutics*, *Molecular Carcinogenesis*, etc. He serves on several NIH/NCCAM/NIEHS/NCI Scientific Review Committees related to various aspects of Cancer Research.

Multimodality treatment for non melanoma skin cancer: A prospective study done on 120 Egyptian patients

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Background: Multiple currently accepted treatments for non melanoma skin cancer (NMSC) are now available.

Purpose: To present multimodality treatment for NMSCs and to report any side effects or recurrence during three years follow-up period.

Material and Methods: This is a prospective study including 120 patients with NMSCs. Patients were subjected to different treatment modalities with follow-up for three years.

Results: 103 Patients (85.8%) were treated by surgery with or without post operative radiotherapy, 8 patients (5%) received only radiation therapy, 7 patients (5.8%) treated by shave excision followed by medical treatment (intralesional interferon for 3 months, systemic retinoids and cyclo-oxygenase inhibitor for 6 months), and 2 patients (1.7%) escaped the treatment. All patients treated by shave excision followed by medical treatment showed complete healing of all lesions 6 months after completing the course of treatment.

Conclusion: Alternatives to the surgical management of NMSC may be preferred under certain circumstances.

Biography

Rania Abdel Hay has completed her MBBch from Cairo University, Egypt and now she is a Postgraduate student in the cosmetic unit of the Dermatology Department, Faculty of Medicine, Cairo University. She has published more than 28 papers in reputed journals and has been serving as an Associate Editorial Board Member of repute.