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[Curr Med Chem](#), 2014;21(9):1082-92.

The role of neuroendocrine cells in prostate cancer: a comprehensive review of current literature and subsequent rationale to broaden and integrate current treatment modalities.

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Author information

Abstract

Neuroendocrine prostate carcinoma (NE-PCa) is a heterogeneous disease. Due to a high prevalence of NE (neuroendocrine) differentiation in patients who receive prolonged androgen deprivation treatment, the real incidence of NE-PCa remains unknown. Similarly, the biological steps from prostate carcinoma (PCa) toward NE differentiation are far less than definitive and, consequently, there is a lack of evidence to support any of the treatments as the "gold standard".

MATERIALS AND METHODS: A systematic literature search was conducted using the PubMed, Scopus, and Embase databases to identify original articles and review articles regarding NE-PCa. Keywords were "prostate cancer" and "neuroendocrine". Articles published between 1995 and 2013, were reviewed and selected with the consensus of all of the authors.

RESULTS: Fifty-one articles were selected by the authors for the purpose of this review. The principle findings were reported into some subsections: Epidemiology, Biological steps of NE differentiation (with some principle articles on animal and in vitro, since there is very little in the literature on human studies); for the treatment options, we had to expand the search on PubMed to a larger timeframe and selection since very little was specifically found in the first criteria: surgery, radiotherapy, ablative techniques, immunomodulation and epigenetic therapy were then reviewed. A multidisciplinary approach, advocated by many authors, although promising, has failed to demonstrate increased survival rates. Limitations of this review include the lack of a clear definition of NE-PCa and consequently, the lack of strong evidence provided by a large series with long-term follow-up.

CONCLUSIONS: Supported from this extensive review, we propose it is worthwhile to investigate a new multimodal therapeutic approach to address advanced NE-PCa starting from a debulking (with radical intent) of the disease plus epigenetic therapy with stem cell differentiation stage factors (SCDSFs). In addition immunotherapy can be used to treat the cancer presenting phenotype in association with chemomodulation plus ablative therapies, in case of advanced or recurrent diseases. SCDSFs may be utilized to regulate cancer stem cells and possible new phenotypes could also be associated with ablative therapies. Hormonal deprivation, radiotherapy, chemotherapy, ex vivo vaccines and targeted therapies could also be used and reserved in case of failure.

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[Future Oncol.](#) 2013 Aug;9(8):1231-7. doi: 10.2217/fo.13.86.

Complete regression following sorafenib in unresectable, locally advanced hepatocellular carcinoma.

Moroni M¹, Zanlorenzi L.

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Abstract

Sorafenib (SO) was the first targeted agent to produce significant improvements in overall survival in patients with advanced hepatocellular carcinoma (HCC). We report the case of a cirrhotic patient with chronic hepatitis C virus infection; locally advanced, unresectable, multinodular HCC, and portal vein tumor thrombosis, who achieved complete tumor regression following SO treatment. The patient was treated with SO 400 mg twice daily, which was subsequently reduced to 200 mg twice daily due to the occurrence of hand-foot skin reaction. The patient also received the following concomitant medications: Synchro-Levels® (Alphrema, Varese, Italy), silymarin and vitamin E. Long-term treatment with reduced SO dosage and Synchro-Levels resulted in a sustained radiological and clinical response with normalization of α -fetoprotein levels. Observed side effects were mostly low grade and manageable following dose adjustments. After 44 months of treatment the patient was in good physical condition, which suggests that a complete response with long-term SO is achievable in patients with locally advanced HCC.

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Apoptosis. 2006 Sep;11(9):1617-28.**Zebrafish embryo proteins induce apoptosis in human colon cancer cells (Caco2).**Cucina A¹, Biava PM, D'Anselmi F, Coluccia P, Conti F, di Clemente R, Miccheli A, Frati L, Gulino A, Bizzarri M.

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Abstract

Previous studies have shown that proteins extracted from Zebrafish embryo share some cytostatic characteristics in cancer cells. Our study was conducted to ascertain the biological properties of this protein network. Cancer cell growth and apoptosis were studied in Caco2 cells treated with embryonic extracts. Cell proliferation was significantly inhibited in a dose-dependent manner. Cell-cycle analysis in treated cells revealed a marked accumulation in the G(2)/M phase preceding induction of apoptosis. Embryo proteins induced a significant reduction in FLIP levels, and increased caspase-3 and caspase-8 activity as well as the apoptotic rate. Increased phosphorylated pRb values were obtained in treated Caco2 cells: the modified balance in pRb phosphorylation was associated with an increase in E2F1 values and c-Myc over-expression. Our data support previous reports of an apoptotic enhancing effect displayed by embryo extracts, mainly through the pRb/E2F1 apoptotic pathway, which thus suggests that Zebrafish embryo proteins have complex anti-cancer properties.

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