



MOL2NET, International Conference Series on Multidisciplinary Sciences

<http://sciforum.net/conference/mol2net-03>

Medicinal plants extract for cancer treatment

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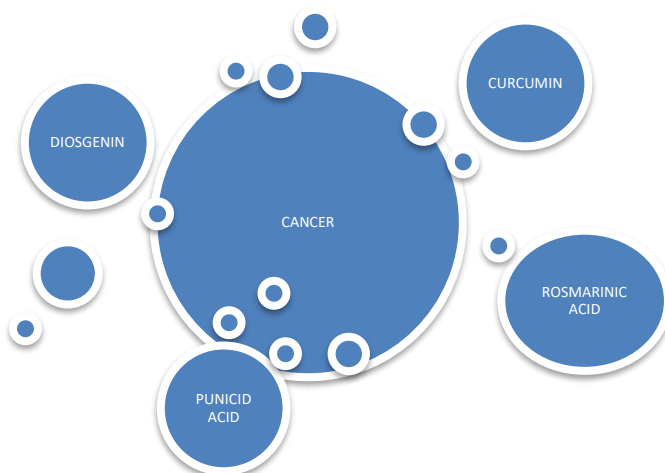
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Graphical Abstract



Abstract.

Cancer is the leading cause of death worldwide, affecting child's and adults, poor and rich, female and male. Between 30% and 50% of cancers type can be prevent with healthy lifestyle. On 2015, 8,8 million people died of cancer, this the 16% of world habitants. The economy impact of cancer is significant and still increasing. It is estimated that the total cost of cancer in 2010 was approximately of 1.16 billion dollars. Only one of five medium and low-income countries have necessary data to combat this illness. Nowadays, scientists are betting on herbal medicine for cancer and they are searching good results on this ancient's treatments, increasing life expectancy of the patients.

Keywords: Diseases, Cancer, Medicinal plants, Cure, Agents.

Introduction

The use of different chemicals is producing a climate pollution that is making a dramatically increasing of diseases in our society. One of these diseases is Cancer, that is the leading cause of death worldwide. This explains why scientist and specialist on medical sciences are looking for many alternative cures for this lethal illness, more specific a treatment with natural extracts.

These days the “Alternative medicine” became very common all around the world, it focuses on the idea of using different plant extracts as potential therapeutic agents [1]. This type of medicine has a lot of past, since ancient times, plants are used for different treatments to cure inflammations, headache, rejuvenation and digestive disorders. The herbology is accessible to all because of its low costs.

According to the International Agency for Research on Cancer (IARC), on 2008 there were 12.7 million new cases of cancer and by the year 2030 it is expected to grow a little less than the half [5].

Cancer is a term for diseases in which exists an unregulated proliferation of cells where the normal cell transforms to a malignant one. In the year 2000, Hanahan and Weingberg published their important review of the hallmarks of cancer where they organized biologic complexities of cancer in six majors: evading apoptosis that is the programmed cell death, the growth of new blood vessels, endless duplicate potential, insensibility to signals to make cells grow, self-sufficiency in growth signals and the production of cancer cells better known as metastasis [2].

There are different modalities against the cancer, the most typical is the surgical intervention and therapies with chemicals, hormones and radiation. All those therapies mentioned have secondary effects, that's why natural plants are one of the best treatments without pain.

1.1 Curcumin

This component of an Indian spice better known as *Curcuma Longa L.* This anti-inflammatory agent has shown in different studies that is an effective against breast cancer and brain tumor pollution. According to the article of Shivangi Goyal *et al*, Curcuma can reduce cell proliferation on human glioblastoma (GBM), such as A-172 or MZ-18. [4] Also, this effect was observed on nuclear transcription factor STAT3, that is a transcription factor which is encoded by the STAT3 gene. Apoptosis can also be controlled with this powerful ingredient in turmeric [5].

1.2 Diosgenin

This spice derived from the dry seeds of *Trigonella foenumgraecum Linn*, has shown since ancient traditional practices of medicine to affect the inflammatory cytokines due to their antioxidant potential which can be used against cancerous cells. Diosgenin also have anti apoptotic potential and a role as a protective agent in myocardial. The antitumor potential of this product of hydrolysis by acids, was well studied by many groups of researchers and found that there was a reduction in cell proliferations in cell lines such as Bel-7402 and suppression of invasion due to tumor necrosis factor (TNF) [3].

1.3 Punicic Acid

A bioactive compound of pomegranate seed oil that has gained wide attention for their therapeutic potential [3 punicic acid]. Punicic acid helps to reduce de proliferation of cancerous cells, it was observed by Grossmann *et al* who studied the effect against breast cancer. This polysaturated fatty acid, restrain an enzyme secretion called ornithine decarbolxylase and restrict the growth of tumors in different cancers such as prostate one, which is the most widespread cancer on men.

1.4 Rosmarinic Acid

Is a phenolic compound, which can be extracted from *Rosmarinus officinalis* (Rosemary). This native herb found in Mediterranean region benefits patients with ovarian cancer and other types by inducing apoptosis and inhibiting migration, adhesion and invasion on cells. It is also known for its awesome antioxidant property that can use against considerable diseases. It was found that Rosemary helps to skin cancer, reducing tumor formation [5].

Conclusions

On these days, diseases are increasing on a aggressive form because of our excessive use of chemicals, bad alimentation and habits. Technology helps to reduce and treat illness improving patients quality of life but when there is no longer technology or science that benefits them , an alternative treatment to reduce pain or to fight against a disease is alternative medicine with the use of plants and natural extracts. Prevention will always be the best health method against diseases, so we can prevent diseases consuming natural products on our daily diet that is cheaper than commercial vitamins or medicine. These Natural components or extracts should be investigated further for the benefit of our society, involving ancient's culture and knowledge.

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