Biological assessment and therapeutic potential of avicularin as potential anticancer agents for the treatment of Hepatobiliary carcinoma: Phytotherapeutic approach for Health application

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OBJECTIVES/PURPOSE:

- Flavonoids have been well known for their pharmacological activities in the medicine and valuable plant phytoconstituents due to its anti-inflammatory, anti-viral, anti-diabetic, anti-bacterial, cardioprotective, anti-cancer and anti-aging properties. Avicularin (Figure 1) is basically flavonoids having chemical structure quercetin-3-α-l-arabino furanoside which protects our body from oxidative stress induced apoptosis.
- In order to know the biological potential of avicularin for the treatment of Hepatobiliary carcinoma, present investigation deals the medicinal importance and pharmacological activities through scientific research work for the development of effective medicine.

METHODS:

- Scientific research work have been performed and collected valuable information of avicularin for their biological activities in the medicine against various form of cancerous disorders. Effectiveness of avicularin in in hepatocellular carcinoma and their mechanism of action have been investigated in Huh7 cells. All the data's have been analyzed for their anticancer potential.
- Molecular mechanism of avicularin has been also investigated in the present investigation through scientific study of avicularin on NF-κB (p65), COX-2 and PPAR-γ activities and tubulin. Molecular study was also performed through the binding potential of avicularin with different ligand to reveal their anticancer activity.

RESULTS:

- From the analysis of the present investigation data it was found that avicularin have huge biological potential and could be used for the treatment of Human cancerous disorders.
- Present work data analysis revealed the positive effect of avicularin on human Hepatobiliary carcinoma as it significantly decreased cell proliferation and inhibited cell migration and invasion in Huh7 cells. Present studies reveal the biological potential of avicularin in cancers with their underlying molecular mechanisms.
- Molecular study data analysis also revealed the importance of avicularin as potent anticancer compounds which could bind to the novel site on tubulin.

RESULTS:

- Treatment with avicularin markedly inhibited the G0/G1-phase cells and and induced cell apoptosis. Moreover anticancer efficacy of avicularin in hepatocellular carcinoma was dependent on the regulation of NF-κB (p65), COX-2 and PPAR-γ activities.
- Some other scientific research work also signified the biological potential of avicularin as it have significant effect on human hematomas cell, human cervical adenocarcinoma cell, esophageal carcinoma cell and human colon adenocarcinoma cell.

CONCLUSIONS:

- Present work describes the recent developments of avicularin against cancer disorder treatment and suggested them as appropriate candidates for anticancer compounds against Hepatobiliary system.

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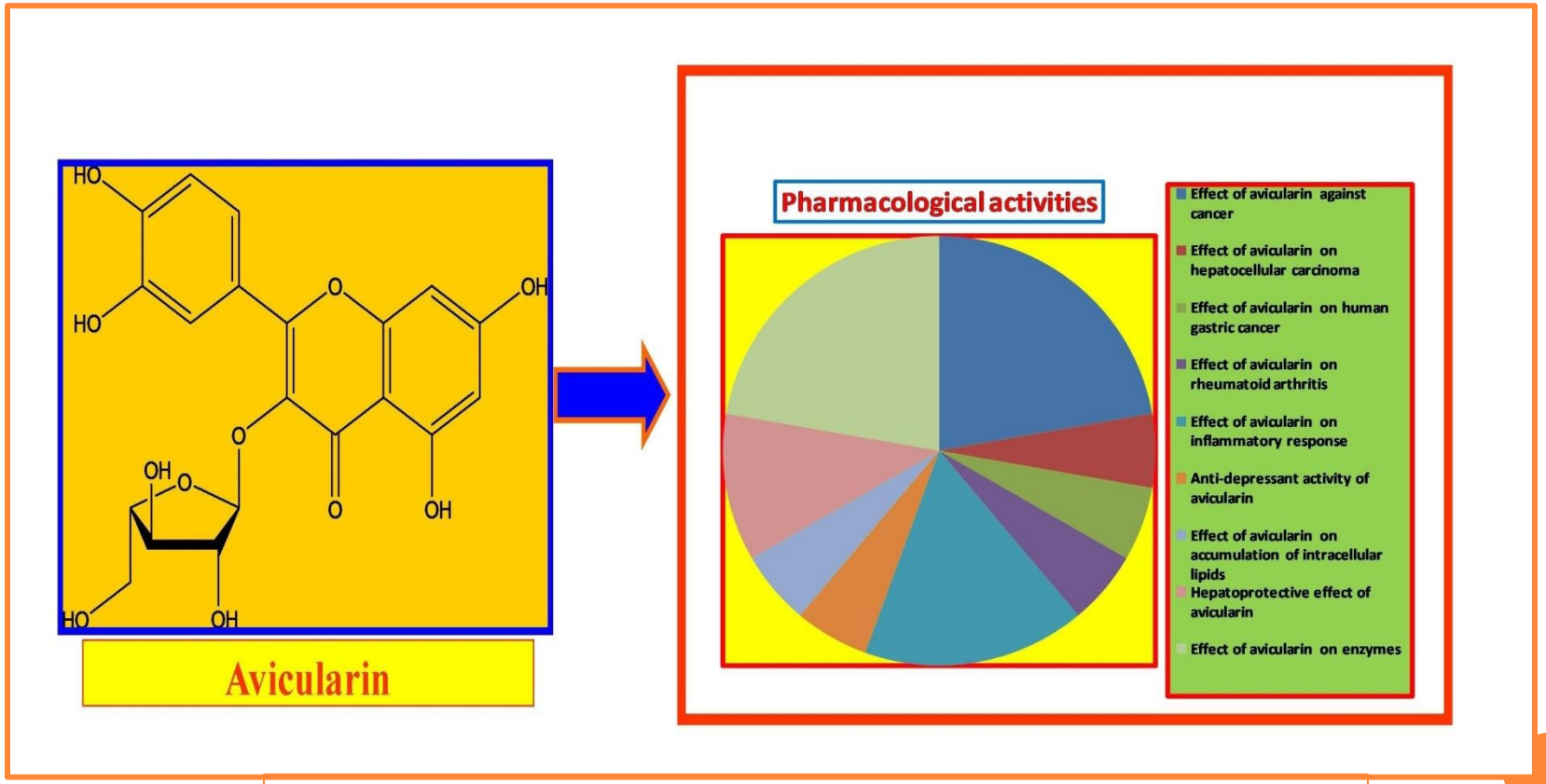

Figure 1: Biological potential of Avicularin

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