



Future Perspectives of Indomethacin from being anti-Inflammatory to being anticancer Agent

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Abstract:

The talk entitled “Indomethacin from Anti-inflammatory to Anticancer Agent” covers the recent reports regarding the implication of COX-2/PGE2 in multiple cancer cell proliferation to emphasize the anticancer potential of COX-inhibitors including indomethacin and to reveal that the reduction of PGE2 production interferes with the cancer cell proliferation belongs to multiple cancer cell types. Impressively, indomethacin is involved in anti-proliferative and apoptotic actions against cancer cell types via COX-2-independent mechanisms to highlight indomethacin as promising anticancer agent with dual actions to control the cancer cell proliferation. The cardiovascular complications result from diaryl heterocycle sulfonamide/methylsulfone selective COX-2 inhibitors upon reduction in PGE2 and PGI2 production that affects the vascular tone limits the use of Celecoxib as chemopreventive agent against recurrence of colorectal carcinoma cells. Kinetic profile of indomethacin against COX-2 showed obvious difference from that of selective COX-2 inhibitors in which it recovered completely from the enzyme after long time of incubation while COX-2 inhibitors did not recover to impress that this might be implicated in the cardiovascular toxicity of the selective inhibitors. This raised the concern to develop the indomethacin from nonselective COX- to selective COX-2-inhibitors and to assert whether the cardiac complications are from pharmacological class effect or chemical class effect.

Biography:

Ms. Shaymaa Emam Kassaba has completed her Master’s degree in Faculty of Pharmacy, King Salman International University, Ras Sedr, Egypt. She is working as an Faculty of Pharmacy in Egypt.



Publication of speakers:

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2. Kassab, Shaymaa & Mowafy, Samar & Alserw, Aya & Seliem, Joustin & El-Naggar, Shahenda & Nabil Omar, Nesreen & Awad, Mohamed. (2019). Supplemental Material.
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4. Kassab, Shaymaa & Khedr, Mohammed & Ali, Hamed & Abdalla, Mohamed. (2017). Discovery of new indomethacin-based analogs with potentially selective cyclooxygenase-2 inhibition and observed diminishing to PGE2 activities. *European Journal of Medicinal Chemistry*. 141. 10.1016/j.ejmech.2017.09.056.

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