Review of: "[Mini Review] Tumor Cytobiology of IGF-1R In Breast Tumor Activation and Propagation; And the Role of Celecoxib in Its Inhibition"

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Potential competing interests: No potential competing interests to declare.

This mini review is of great potential therapeutic interest, focusing on the role of IGF-1R in breast cancers targeted by celecoxib.

It is clearly indicated that IGF-1R has a physiological role and that only dysregulation necessitates the use of an inhibitor that can be celecoxib.

This mini review is well written and very easy to understand.

It was reasonable to write: “However, further clinical studies are warranted to evaluate the safety, efficacy, and long-term effects of celecoxib in breast cancer patients.”

Some comments:

I did not find the references corresponding to these sentences:

- IGF-1R signaling promotes the secretion of matrix metalloproteinases (MMPs) and other proteases that degrade the extracellular matrix (ECM), facilitating tumor cell invasion through basement membranes and surrounding stromal tissues.
- IGF-1R signaling promotes angiogenesis, the process of new blood vessel formation, by stimulating the secretion of pro-angiogenic factors such as vascular endothelial growth factor (VEGF) and fibroblast growth factor (FGF).
- IGF-1R signaling contributes to immune evasion by suppressing anti-tumor immune responses and promoting immune tolerance within the tumor microenvironment.
- IGF-1R signaling promotes the survival and outgrowth of disseminated tumor cells at metastatic sites by enhancing their interaction with the microenvironment and facilitating the establishment of metastatic niches.

Following references could be added and discussed (1, 2):

1 Bahhnassy A, Mohanad M, Shaarawy S, Ismail MF, El-Bastawisy A, Ashmawy AM and Zekri AR: Transforming growth factor-β, insulin-like growth factor I/insulin-like growth factor i receptor and vascular endothelial growth factor-A:

Prognostic and predictive markers in triple-negative and non-triple-negative breast cancer. Mol Med Rep *12*: 851–864, 2015. PMID: 25824321. DOI: 10.3892/mmr.2015.3560.

2 Girnita L, Worrall C, Takahashi SI, Seregard S and Girnita A: Something old, something new and something borrowed: Emerging paradigm of insulin-like growth factor type 1 receptor (IGF-1R) signaling regulation. Cell Mol Life Sci *71*: 2403–2427, 2014. PMID: 24276851. DOI: 10.1007/s00018-013-1514-y.

One important paragraph has to be added on the role of oxidative stress, oxidants, and anti-oxidants in the regulation of IGF-1R.

In conclusion, this topic is of great importance, but the paper could be improved according to my remarks, mainly the last one on the relationship between IGF-1R and oxidative stress and on the impact of celecoxib on it.