Review of: "[Research Note] Semaglutide, a GLP-1 Agonist Like Ozempic, and Its Potential Role as a Preventive Anti-Cancer Agent"

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Potential competing interests: No potential competing interests to declare.

In this research note, the authors tried to promote the repurposing of Semaglutide as a cancer prevention agent. The authors have well-explained the shared signalling pathways involved in both diabetes and cancer, such as activation of cell proliferation and inflammatory response pathways like MAPK, NF-κB, and JAK-STAT. This provides justification to utilize Semaglutide to prevent cancer progression, including uncontrolled cell proliferation, angiogenesis, and metastasis, by targeting these malignant signalling pathways. However, there are a few comments and concerns as listed below:

1. One must take note that the reported anticancer activities of GLP-1 agonists were limited to Semaglutide target organs such as the pancreas and colorectal, which future studies should focus on for these organs with a possible higher success rate.
2. The angiogenesis references that had been quoted by the authors indicate that GLP-1 promotes angiogenesis in human endothelial cells in a dose-dependent manner, through the Akt, Src, and PKC pathways, instead of the reported “interfering with pro-angiogenic factors, these agonists create an inhospitable microenvironment for tumor growth, undermining the critical support network required for sustained malignancy.” This is misleading.
3. There are also some clinical studies that reported the possible higher risk of developing medullary thyroid cancer and pancreatic cancer associated with the consumption of GLP-1 agonists. Although almost an equal number of studies stated no direct association of Semaglutide with cancer, one must exercise caution regarding the possibility that this drug might promote malignant neoplasms.