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Combining gold nanoparticles with other radiosensitizers for unlocking the full potential of cancer radiotherapy

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Effective local therapy is needed to avoid local progression of the tumor, which may further decrease the development of systemic metastases and increase the possibility for resection. Radiation therapy (RT) is frequently used to locally treat the tumor. One of the major issues in RT for treating cancer is the close proximity of adjacent organs at risk, resulting in treatments doses being limited by significant tissue toxicities, preventing dose escalation necessary to guarantee local control. One of the currently adapted approaches to overcome this challenge is to add radiosensitizers to current RT protocol to unlock the full potential of RT. In this talk, I will focus on gold nanoparticles (GNPs), docetaxel, and cisplatin as radiosensitizers. About half of cancer patients (50%) receive radiotherapy, and all of these patients would benefit from this type of novel approaches.

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