In the news

ANCIENT DOG WITH NEW TRICK?

Colchicine, which was first described as a mitotic poison, looks set to make a return to the forefront of cancer research, albeit in disguise as a 'cloaked' vascular-disrupting agent.

Professor Laurence Patterson and his team at the Institute for Cancer Therapeutics (ICT), University of Bradford, UK, have designed "a 'smart bomb' that can be targeted directly at any solid tumour to kill it without appearing to harm healthy tissue". (*The Irish Times*, 12 Sep 2011). This approach is required because colchicine is too toxic to normal cells to be used systemically in cancer patients. In order to minimize the effect on normal cells, explains Kevin Adams, also of Bradford University, "the drug is inactive until triggered by the activity of an enzyme that is always found in the tumour environment but not elsewhere. Triggering releases a potent, anti-cancer agent which destroys the tumour's blood vessels, effectively starving the tumours to death, a process known as haemorrhagic necrosis". (*The Independent*, 12 Sep 2011).

The researchers have linked colchicine to a sequence of amino acids that keep the drug inactive. This amino acid cloak is cleaved from the drug by matrix metalloproteinase 1, which is secreted by tumour cells. This approach, so far tested in human prostate, breast, colon and lung tumours grown in mice, looks promising; however, "the project is still at quite an early stage", stated Paul Workman, head of cancer therapeutics at the Institute for Cancer Research, UK. "If confirmed in more extensive laboratory studies, drugs based on this approach could be very useful as part of combination treatments for various cancers", he concluded. (*Guardian*, 12 Sep 2011). The ICT team hope to take this research forward into clinical trials within the next 2 years.

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