New study finds complete remission rates for almost all late-stage cancer types, regardless of treatment, are equally low

Complete Responses (CRs) are dramatic, highly desirable situations for patients where all cancer disappears. A meta-analysis of CR rates from chemotherapy treatment of common types of late-stage cancer during a six-year period shows that CRs have, however, remained surprisingly low despite extensive efforts to improve them.


The researchers reported the results of a meta-analysis of 68 chemotherapy trials for cancer treatment between 2000 and 2006 – before the gradual introduction of targeted cancer therapies (drugs that target specific molecular pathways in tumour cells) from 2007, which today can be prescribed alongside cytotoxic drugs.

They found that, regardless of cancer types, chemotherapeutic agent or dose regimen used, the CR rates for patients were equally low, between 5-10 percent across most cancer types, with a mean of 7.41 percent. Such low values and such a high similarity in response rates between cancer types and treatments is both unusual and surprising.
There are, however, rare notable exceptions, such as testicular carcinoma and childhood acute lymphoblastic leukaemia, which are known to be highly chemo-responsive with CR rates of around 80–90 percent; these were not covered by this research.

Brendon Coventry, the Principal Investigator for the study, said, “The finding that late stage cancer CR rates have remained at a similarly low level over this six-year period, despite diligent clinical effort to improve therapies, strongly suggests that an underlying mechanism is preventing rates from increasing above 10 percent. If this mechanism can be further understood or overcome, CR rates could be significantly increased.”

Although this research looked at trials conducted between 2000 and 2006, it is still highly relevant today because, as Coventry says, "CR rates even from 'targeted' therapies are often around 5-10 percent too, indicative of some underlying mechanism limiting the ability to produce CRs in patients".

Although ‘targeted' cancer therapies are becoming more widely used, they only work in a subset of patients with the ‘right’ type of mutation in their tumours. As such, many patients without those mutations still only receive chemotherapy regimens. It remains to be seen how targeted therapies can improve on CR rates in advanced cancer patients.

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