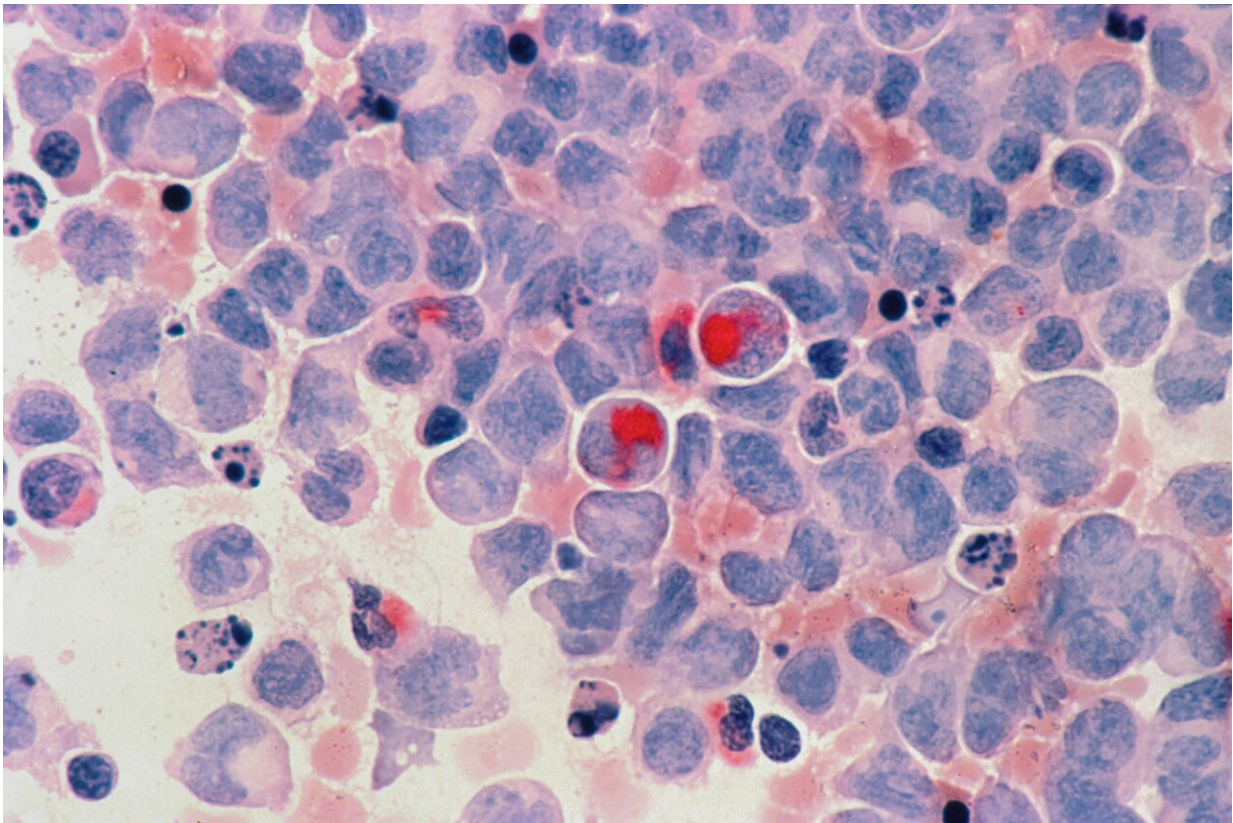


New research identifies promising drug combination for multiple myeloma treatment

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New research from the Royal College of Surgeons in Ireland has found that venetoclax, a medication currently approved for leukemia, provides benefits for patients with multiple myeloma when used in combination

with another drug. This discovery offers a new avenue of treatment options for the currently incurable disease.

Multiple myeloma (MM) is a type of blood [cancer](#) that is newly diagnosed in around 400 people in Ireland each year. Despite [treatment](#) advances in recent years, it remains incurable. The search for innovative treatment strategies is crucial, particularly for patients whose cancer is resistant to standard care.

In the new study [published](#) in *Haematologica*, researchers at the RCSI Department of Physiology and Medical Physics and the Beaumont RCSI Cancer Centre set out to identify complementary drugs that would enhance the efficiency of venetoclax, a drug approved for use in leukemia, for MM treatment. Although previously tested in MM, venetoclax, which blocks the function of a protein called BCL-2, was only found to be effective for a small proportion of patients.

The researchers discovered that combining venetoclax with a drug called 5-azacytidine significantly increased its effectiveness across many MM cell lines, indicating a broader potential patient population that could be treated with the new combination.

"This research is a significant step in identifying more effective treatment options for multiple myeloma. By combining [venetoclax](#) and 5-azacytidine we've seen enhanced efficacy across a wide range of patient samples. It shows the benefits of re-evaluating existing treatments in new contexts to expand their potential," said Professor Triona Ní Chonghaile, Associate Professor and research lead, Department of Physiology and Medical Physics.

Professor Siobhán Glavey, Chair, RCSI Department of Pathology and Clinician Scientist, Beaumont RCSI Cancer Centre, commented, "Discovering the potential of this new drug combination is a promising

development. Our next goal is to test for efficacy and safety for multiple myeloma in a clinical trial setting to bring us closer to offering a new treatment strategy for patients."

The mechanism of how the two drugs work efficiently together was also investigated and it was shown that the combination of the two therapies was effective in patient samples from different stages of cancer, even if that patient had been previously treated with chemotherapy drugs.

The research was conducted in collaboration with the Department of Haematology, Beaumont Hospital, Dublin; Department of Medical Oncology, Dana-Farber Cancer Institute, Boston; and the Department of Medicine/Haematology, University of Galway, Galway.

More information: Lyndsey Flanagan et al, Steroid-free combination of 5-azacytidine and venetoclax for the treatment of multiple myeloma, *Haematologica* (2024). [DOI: 10.3324/haematol.2023.283771](https://doi.org/10.3324/haematol.2023.283771)

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