

How to attack and paralyze myeloma cells

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Multiple myeloma is a malignant disease characterised by proliferation of clonal plasma cells in the bone marrow and typically accompanied by the secretion of monoclonal immunoglobulins that are detectable in the serum or urine. Increased understanding of the microenvironmental interactions between malignant plasma cells and the bone marrow niche, and their role in disease progression and acquisition of therapy resistance, has helped the development of novel therapeutic drugs for use in combination with cytostatic therapy.

Together with autologous stem cell transplantation and advances in supportive care, the use of novel drugs such as proteasome inhibitors and immunomodulatory drugs has increased response rates and survival substantially in the past several years. Present clinical research focuses on the balance between [treatment](#) efficacy and quality of life, the optimum sequencing of treatment options, the question of long-term remission and potential cure by multimodal treatment, the pre-emptive treatment of high-risk smouldering myeloma, and the role of maintenance. Upcoming results of ongoing clinical trials, together with a pipeline of promising new treatments, raise the hope for continuous improvements in the prognosis of patients with myeloma in the future.

Professor Martin Bornhäuser and Doctor Christoph Röllig, both experts in the field of blood cancer at the Carl Gustav Carus Medical Faculty of the TU Dresden, have now turned their long-term clinical and research experience in treatment of [multiple myeloma](#) into an instructive review for other physicians. The review has just been electronically published ahead of print in the renowned medical journal *The Lancet*. After a short

introduction into the current understanding of myeloma disease biology, the authors then describe the standard diagnostic work-up and provide a clear overview on the best available [treatment options](#). These include established drugs such as melphalan or steroids, novel substances such as bortezomib and lenalidomide and also therapies using stem cell transplantation.

Multiple Myeloma is one of the most common blood cancers, mainly diagnosed in elderly patients. As life expectancy increases, the frequency of the disease has therefore increased during the last decades. Both deeper insights into disease biology including interactions between malignant [plasma cells](#) and their [bone marrow](#) environment, and the design and clinical testing of new drugs have led to a considerable improvement in the prognosis of this mostly incurable disease during the last years. The right timing and the choice of the best treatment match for the particular myeloma stage and the needs of the individual patient are essential for optimal disease control.

Bornhäuser and Röllig present a structured guidance when and how which treatment should be used and introduce new ways to paralyze the cell cycle of cancer cells or to attack malignant cells by transfusing specific immune bodies. These new therapy approaches will help to further increase the prognosis of myeloma patients in the near future.

The article was co-written by the myelom expert Stefan Knop from Würzburg university and published in the English *The Lancet*, one of the world's best known and most renowned medical journals, making it available to a large audience of readers.

Myeloma patients can get individual treatment advice and information on participation in clinical trials in the myeloma outpatient clinic at the Medizinische Klinik und Poliklinik I of the university hospital Dresden.

More information: Dr Christoph Röllig, Stefan Knop, Prof Martin Bornhäuser, *The Lancet*, [DOI: 10.1016/S0140-6736\(14\)60493-1](https://doi.org/10.1016/S0140-6736(14)60493-1), [www.thelancet.com/journals/lan ... \(14\)60493-1/abstract](http://www.thelancet.com/journals/lan... (14)60493-1/abstract)

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