



RESEARCH ADDS TO ARSENAL OF TREATMENTS FOR RHEUMATOID ARTHRITIS



Beginning with methotrexate in the mid-1980s, clinical investigators at Brigham and Women's Hospital have led the development of a number of drugs for treating rheumatoid arthritis (RA). Thanks to methotrexate and additional progress in the decades since it was approved, the majority of people with RA now experience effective disease management.

"I can confidently say that treatments for RA today are very effective and will continue to improve going forward," said [Elena M. Massarotti, MD](#), of the Brigham's Division of Rheumatology, Inflammation and Immunity. "But there are still challenges to overcome."

One of the biggest of these challenges is that despite effective therapies, 30 percent of patients are unable to achieve complete disease control. This reality drives the continued focus on research into the causes and drivers of RA and the search for additional drugs.

"About one-third of patients with RA go into remission with methotrexate alone," said [Michael E. Weinblatt, MD](#), co-director of clinical rheumatology and associate director of the [Center for Arthritis and Joint Diseases](#) at the Brigham. "Many more can achieve remission with the addition of other drugs. But we still have about 10 percent of patients with high disease activity, and another 20 percent with disease activity in the moderate range. Their disease has improved, but they're not where we want them to be."

Encouraging Signs

Other types of drugs that have greatly improved the treatment of RA by targeting the chronic inflammation that leads to the disease include inhibitors of tumor necrosis factor, inhibitors of IL-6, T cell costimulatory blocking agents, B cell depleting agents and new oral agents that block inflammation.

Controlling RA in a timely fashion is vital because structural damage caused by the inflammation progresses over time. “Fortunately, the need for surgery in people with RA is much less common than it was 15 or 20 years ago,” Dr. Massarotti said. “I’m sending fewer and fewer people for joint replacements. This is because the medical treatments have gotten so much better.”

The Brigham sees about 4,500 people with RA every year. This high volume gives its rheumatologists insights into what works as well as where further research is needed. A patient registry called the Brigham and Women’s Hospital RA Sequential Study (BRASS) also contributes to advances in clinical research for RA.

“We’ve enrolled about 1,500 patients in this registry,” Dr. Weinblatt said. “Some of them have been followed for more than 18 years. It’s greatly increased our understanding of the pathogenesis of the disease and of which factors are active in RA. It also allows us to study the side effects of these drugs.”

The registry serves as a clinical database and a sample repository. According to Dr. Weinblatt, more than 80 papers have come out of the BRASS dataset. In addition, the clinical data and samples are made available to investigators from all over the world who are studying RA.

The Search for Genetic Markers

One important goal of the Brigham’s RA team, along with RA investigators more broadly, is developing biomarkers to predict which people will respond to which therapies. “When a patient walks into the exam room, we have no idea which drug or drugs will be best for them,” Dr. Weinblatt said. “We would like to develop programs that can identify for each individual which treatments will work. This includes the search for genetic markers.”

“The Brigham has a long history of treating people with RA, even before methotrexate,” Dr. Massarotti said, referencing the institution’s status as the country’s first teaching hospital devoted to arthritis and other rheumatic diseases. “And we will continue to lead the way into the future.”

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