



Potential treatment break-through in patients with severe bladder pain

The successful outcome of a new treatment approach is now reported for patients with severe bladder pain. The publication presents data showing that an IL-1 receptor antagonist (IL-1RA) reduces pain and increases the quality of life in this severely handicapped patient group. Preliminary findings were reported in 2020.

The results are published in *European Urology Open Science*, a leading journal in the field of urology that publishes international discoveries with clinical relevance (Wullt et al. 2021. *Immunomodulation - A Molecular Solution to Treating Patients with Severe Bladder Pain Syndrome? Eur. Urol. Open Sci.* **31**, 49-58; doi: [10.1016/j.euros.2021.07.003](https://doi.org/10.1016/j.euros.2021.07.003)). SelectImmune Pharma is developing this new treatment approach for bladder pain as well as recurrent cystitis.

Patients with bladder pain syndrome experience debilitating pain and extreme frequency of urination. Numerous therapeutic approaches have been tested but as the molecular basis of disease has remained unclear, specific therapies have not been available. Scientists at Lund University have shown that the pain response in the bladder is accentuated by interleukin 1 (IL-1) and that treatment with an IL-1 receptor antagonist (IL-1RA) restores bladder health in susceptible mice, linking IL-1-dependent inflammation to pain and bladder pathology.

IL-1RA treatment is now proposed to be beneficial in patients with severe bladder pain syndrome. Treatment reduced bladder pain and increased the quality of life in 13 out of 17 patients, and responders returned to a more normal lifestyle. At the molecular level, treatment inhibited destructive neuro-inflammation and pain sensing was lowered. Neuro-inflammatory- and IL-1-dependent gene networks were inhibited.

The potent acute effect and lasting symptom relief in responding patients indicate that this therapeutic approach is worth exploring in controlled clinical trials.

“We are proud to have taken our molecular discoveries all the way to the clinic,” says Ines Ambite, research scientist at Lund University and R&D coordinator, SelectImmune Pharma.

“The clinical findings confirm the potential of IL1-RA therapy in bladder pain and cystitis,” says Björn Wullt, urologist and physician responsible for the treatment and follow up.

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SelectImmune Pharma is a pharmaceutical company whose shares are traded on the Spotlight Stock Market. The company goal is to develop new immunotherapies, which act as immune enhancers and offer alternatives to antibiotics.

Bacterial infections affect large parts of the population and are becoming difficult to treat due to increasing antibiotic resistance. SelectImmune Pharma develops immunomodulation therapies that can supplement or replace antibiotics. Urinary tract infections are among the most common infectious diseases world-wide, affecting about 150 million people each year. The need for alternative treatments for bacterial infections is currently very large as are potential markets.