

Omnio AB receives patent for use of inhibitors of plasminogen for treating, reducing or preventing radiation-induced injuries

Omnio receives patent approval for use of tranexamic acid (TXA) to treat, reduce and prevent radiation induced injuries. TXA is a synthetic reversible competitive inhibitor to the lysine receptor found on plasminogen. The binding of this receptor prevents plasmin (activated form of plasminogen) from binding to and ultimately stabilizing the fibrin matrix. TXA is an FDA-approved drug for heavy menstrual bleeding and short-term prevention in patients with hemophilia.

More than 50% of all cancer patients receive some form of radiotherapy either as a sole treatment or in connection with surgery or chemotherapy. Although the strategies for radiotherapy are continuously being developed, most patients suffer from radiation-induced side-effects. The side effects are divided into acute effects that appear early after the start of the radiotherapy (erythema, dry desquamation and moist desquamation,

skin ulcers and necrosis), and late effects that can be seen more than 3 months after radiotherapy (poor wound healing, fibrosis, telangiectasia, and carcinogenesis). The adverse effects of radiotherapy are dose- and schedule dependent, and they are mostly detected in rapidly proliferating tissues, such as the skin, small blood vessels, gastrointestinal tract and bone marrow. In fact, the skin is wounded to different extent after every form of radiotherapy. Radiation-induced dermatitis is sometimes very painful and is known to affect the quality of life of patients. The strategies that are used today to treat radiation-induced wounds are suboptimal. They include cleansers and moisturizers, dressings, as well as antibiotics and topical corticosteroids. Patients are also recommended to protect the skin from sun exposure and other trauma since the skin's ability to heal is reduced. In rare cases, severe radiation wounds also require skin grafting.

The research group led by Tor Ny at Umeå University has previously shown that by reducing the activity of plasminogen, the side effects that occur during radiation treatment of cancer patients can be dramatically reduced. Today, radiation doses must be limited so that patients do not have too serious side effects. With Omnio's method, patients would be able to receive increased radiation doses and for longer periods without side effects, which increases the chances of effective radiation treatment.