Ryplazim® (plasminogen, human-tvmh) – New orphan drug approval

- On June 4, 2021, the FDA announced the approval of Liminal BioSciences' Ryplazim (plasminogen, human-tvmh), for the treatment of patients with plasminogen deficiency type 1 (hypoplasminogenemia).

- Patients with hypoplasminogenemia lack a protein called plasminogen, which is responsible for the ability of the body to break down fibrin clots. Plasminogen deficiency leads to an accumulation of fibrin, causing the development of growths (lesions) that can impair normal tissue and organ function and may lead to blindness when these lesions affect the eyes.

- Ryplazim is the first treatment approved for patients with hypoplasminogenemia.

    — The active ingredient in Ryplazim is plasminogen, purified from human plasma. Treatment with Ryplazim helps to increase the plasma level of plasminogen - enabling a temporary correction of the plasminogen deficiency and reduction or resolution of the lesions.

- The efficacy of Ryplazim was established in a single-arm, open-label study in 15 pediatric and adult patients with plasminogen deficiency type 1. All patients received Ryplazim every 2 to 4 days for 48 weeks to achieve at least an increase of individual trough plasminogen activity by an absolute 10% above baseline and to treat the clinical manifestations of the disease. Efficacy was established on the basis of overall rate of clinical success at 48 weeks. Overall rate of clinical success is defined as 50% of patients with visible or other measurable non-visible lesions achieving at least 50% improvement in lesion number/size, or functionality impact from baseline.

    — All patients with any lesion at baseline had at least 50% improvement in the number/size of their lesions.
    — Twenty-five of the 32 (78%) external lesions were resolved by the end of week 48. There were no recurrent or new external lesions in any patient through week 48.
    — Nine of the 12 (75%) assessed internal lesions were resolved by week 48. No recurrent or new lesions were found on imaging in any patient through week 48.

- Warnings and precautions for Ryplazim include bleeding, tissue sloughing, transmission of infectious agents, hypersensitivity reactions, neutralizing antibodies, and laboratory abnormalities.

- The most common adverse reactions (≥ 10%) with Ryplazim use were abdominal pain, bloating, nausea, fatigue, extremity pain, hemorrhage, constipation, dry mouth, headache, dizziness, arthralgia, and back pain.

- The recommended dosage of Ryplazim is 6.6 mg/kg body weight administered intravenously every 2 to 4 days.

    — Refer to the Ryplazim drug label for complete dosing and administration recommendations.

- Liminal BioSciences' launch plans for Ryplazim are pending. Ryplazim will be available as a single-dose 50-mL vial containing 68.8 mg of plasminogen as a lyophilized powder for reconstitution.