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AnGes MG, Inc.

AnGes MG receives green light from the Japanese Ministry of Health for its clinical trials for HGF genetic medicine
-Japan's first large-scale multi-centered double-blind clinical trials for genetic medicine underway-

AnGes MG submitted the formal application for its planned large-scale multi-centered double-blind clinical trials for genetic medicine to treat peripheral arterial diseases (PAD) to the Japanese Ministry of Health, Labor and Welfare on October 31, 2003, and has now received the ministry's confirmation. The company is thus going to be the first Japanese enterprise to embark on large-scale multi-centered double-blind clinical trials of genetic medicine. It will be concluding agreements with medical institutions where the clinical trials are to be performed.

The HGF genetic medicine regenerates the blood vessels to improve the condition of patients with clogged capillaries due to arteriosclerosis or similar blood circulation disorders. Application of the medicine, currently under development, is principally different from all conventional drugs, as it enables effective treatment in cases when general pharmacological therapy is insufficient, and where surgery may not improve the patient's condition. AnGes MG is developing medication mainly to treat PAD patients with progressing blood circulation disorders of the lower extremities (arteriosclerosis obliterans, Buerger's disease), as well as those with progressing ischemic heart disease (IHD) affecting the blood circulation in the heart (angina pectoris, myocardial infarction).

AnGes is planning multi-centered studies related to domestic clinical trials of HGF genetic medicine for PAD, specifically, for patients with arteriosclerosis obliterans suffering pain even at rest or ischemic ulcer, or those with Buerger's disease with ischemic ulcer. The present large-scale multi-centered double-blind clinical trials is to be performed to verify efficacy as a Phase III study.

For the HGF genetic medicine for PAD, Phase II studies are underway in the U.S., and AnGes MG is aiming at joint development both in Japan and the U.S.
Marketing / distribution rights for the HGF medicine in Japan, Europe and the U.S., for both

PAD and IHD, have been granted to Daiichi Seiyaku (Daiichi Pharmaceutical) Co., Ltd.

Reference

Specific therapeutic significance of the HGF genetic medicine

It is known that HGF has a strong vascularization effect; the present pharmaceutical agent deposits a gene to produce HGF in sites of vascular necrosis, thus the HGF protein is generated locally, resulting in blood vessel regeneration to improve the (arteriosclerotic) condition - the first genetic medication to be produced in Japan. The agent thus developed does not employ a virus vector to introduce the genetic sequence to a patient's DNA - it is a pure, "naked" DNA sequence, so negative effects that usually accompany a DNA sequence introduction with a virus vector do not appear here. In addition, since the present medicine alters the condition of necrosis by regenerating the blood vessels, as opposed to all conventional pharmaceutical agents, positive results can be expected in cases when conventional therapy for PAD and IHD fails, or is increasingly complicated.

Explanation of specialized terms

1. Gene medicine

A medicine, wholly, or partially comprising a genetic expression.

2. Hepatocyte Growth Factor (HGF)

A growth factor developed from hepatocytes; in addition to blood vessel regeneration, it initiates various processes necessary for tissue / organ regeneration during organ formation (organogenesis).

3. Peripheral arterial disease (PAD)

Since peripheral blood vessels of the four limbs can become clogged, so that the supply of blood to muscle and skin tissues is not adversely affected, causing the following symptoms: a feeling of paralysis, coldness, arrest of blood flow (intermittent claudication), ulcer of lower limbs (thrombic disease), pain even when there is no motion. A condition characteristic of arteriosclerosis obliterans (ASO), Buerger's disease. There are approximately 100,000 patients in Japan and 1,000,000 - in the U.S.A.

4. Ischemic heart disease (IHD)

Vessels supplying the heart (coronary blood vessels) become contracted (or constricted) to a certain extent resulting in insufficient blood flow after physical activity; characteristic symptoms are angina pectoris accompanied with a tightness in the chest and chest pains, and myocardial infarction causes by disorders of coronary blood vessels becoming completely clogged - heart muscle tissue becoming ischemic. There are approximately 100,000 patients in Japan who underwent angioplasty surgery due to severe heart disease, and 1.8 million - in the U.S.

5. Naked DNA

For a genetic expression to work properly, genes have to enter a cell; in conventional practice, however, genes may only come as close as to be attached to the cell membrane, unable to penetrate it. A carrier, an agent to introduce the genetic expression to a cell, becomes necessary at this point. An improved virus vector (i.e., purified not to pose danger to the host cell) is usually used for these purposes, and the method features a genetic expression introduced to a cell by a ribosome. Our methodology of the HGF genetic medication, by contrast, has genes spiraling in "plasmid DNA" (a naked DNA technology). Plasmid DNA alone may not be able to penetrate the cell membrane, it can, however, generate genes if injected intra-muscularly. The technology is extremely safe with no danger of contamination and cytotoxicity due to ribosomes or viruses.