

ANTIA THERAPEUTICS – FROM A NEW POLYMER TO THE CLINICAL PRODUCT

Problem – Challenge

Embolization of bloods vessel is useful to control bleeding or to ablate diseased tissue by cutting off its blood supply. Endovascular embolization is used as an alternative to surgical interventions for a variety of purposes including for example the endovascular treatment of tumors or the treatment of lesions such as aneurysms.

To achieve endovascular embolization, a preformed polymer in suspension is usually injected into the blood vessel via a catheter and precipitates at the contact of blood forming a plug in the blood vessel. A radio-opaque material is often included in the polymer suspension to allow radiological imaging during the embolization process and clinical follow-up. However, the currently used radio-opaque material is not directly bound to the polymer and tends to diffuse out of the embolization plug over time which reduces the ability to visualize the plug and may further generate toxicity

Solution

Antia Therapeutics has developed a novel radio-opaque polymer for minimally invasive embolization which contains a radio-opaque moiety covalently linked to the polymer, thus allowing for optimal long-term radiological follow-up. The polymer is moreover easier to prepare on site, just before injection, than currently used polymers. Antia Therapeutics was created in 2007 as a University of Geneva and EPFL spin-off, and has sponsored research at University of Geneva and Université Claude Bernard Lyon 1 to develop the polymer and optimize its formulation. Antia has then upscaled the production process and proceeded to the preclinical studies required to obtain CE marking in 2016. The polymer was successfully tested in humans in 2017 and has been validated for treating hypervascular malformations. Antia is now carrying out clinical studies for additional indications of its embolization product, such as for example in the neurointerventional field.

