

Scientists like timber-framed houses

They are developing a new therapy for pulmonary infections, work in the US and meet in Unter-Seibertenrod. The idea came from the founder of the pharmaceutical company, Dr. Thomas Hofmann. His grandparents' house is located in our village and that's where he and his team are meeting.

By Joachim Legatis

Thomas Hofmann currently lives in Doylestown located in the state of Pennsylvania, but his summer vacations are spent in his old home town. That's when his son and daughter can play with the neighbor's children, the same way Dr. Hofmann did when he was a child and like the generations before him. He values the calm atmosphere of the Vogelsberg region and he gets his colleagues excited about the rugged landscape of the state of Middle Hesse.

Dr. Kevin Stapleton flew in two days ago from Los Angeles and he admires the diverse surroundings here. Dr. Brandon Banaschewski is impressed by the small villages here: "Everybody knows everyone". Being from Canada originally, he loves the historic timber-framed farm houses. They all stay in the historic Hofmann farm house, built in 1733.

Obstacles with Skype

Dr. Hofmann scheduled a work meeting for his company Qrumpharma in Unter-Seibertenrod. During their one week stay the six medical experts discuss plans over the next few months for their new drug under development: QRM-003, an antibiotic therapy to treat a particular type of lung infection.

Caused by non-tuberculous mycobacteria (NTM), these infections are different from the bacterium being responsible for the better known tuberculosis. NTM is transmitted through small water droplets in the air with increasing prevalence. There are already about 100000 NTM patients in the USA alone, whereas in Europe about 13000 and in China about 220000 patients are diagnosed with NTM. The main problem with this indication lies in the fact that the diagnosis of pulmonary NTM infections is rather difficult, as Dr. Hofmann explains during our conversation. Because of that, the actual number of patients is most likely much higher. In addition, treatment is difficult since NTM bacteria are encapsulated in dead lung tissue and nodules.

For these reasons, the Qrumpharma experts intend to market an already known antibiotic, which currently is only available in tablet form, repurposed as an inhalable formulation. Like all new drugs, QRM-003 has to pass a multi-step regulatory process. "Assuming everything proceeds as planned, it should take six years to advance from the current tablet form to administration as an aerosol", Dr. Hofmann describing the lengthy development process.

Born and raised in Unter-Seibertenrod, Dr. Hofmann relies on colleagues with different areas of expertise. The microbiologist Dr. Banaschewski was able to convert the solid tablet dosing form into a liquid form suitable for nebulization. Dr. Stapleton is a mechanical engineer, who developed the nebulization device.

Physicians Drs. Hofmann, Kirsten Kaiser and Sebastian Canisius focus on the clinical aspects. "The way how aerosols distribute in the lung, is a quite complex process", explains Dr. Kaiser. Currently, the team is preparing for studies in animal models, by year's end, first human volunteers

are expected to participate in the first clinical study. Only then, actual patients can get involved in any subsequent clinical trials.

The nine team members of Qrumpharma are living in Pennsylvania, North Carolina, Los Angeles, Marburg and in Switzerland. Every few months, work meetings take place, as is the case this week in the community center of Unter-Seibertenrod. Dr. Hofmann always enjoys coming back to his home village: "Each of my colleagues should at least stay once in my grandparent's house. For North Americans, historical timber-framed farm houses are truly something very special.

Dr. Hofmann also appreciates the simplified ways of decision making here. The community center was reserved with one phone call to the town mayor, catering is provided by the same vendor who caters to the elementary school in Ober-Ohmen. Day trips to the surrounding areas are completing the agenda for the week. A meeting with an investor is also part of the agenda. That's because the start-up company Qrumpharma is utilizing venture capital, which originates in part from local investor Lutz Helmig (Grebenhain).

Communication amongst these experts is often done with the help of Skype. That sometimes comes with obstacles in the Vogelsberg region as Dr. Hofmann has experienced first-hand. When he tried to participate at a conference in the USA via Skype recently, only an audio link was available. The local bandwidth was insufficient for both, stable audio and video links.

Even rural locations are ideal for the way international teams collaborate, where communications take place primarily through the internet. "Broadband internet is required for that. That is no problem in the US, where data highways run all the way into every village", says Dr. Kaiser. In this regard, there is still quite some room for improvement in the Vogelsberg region.

QRM-003

Thomas Hofmann founded Qrumpharma four years ago. His company is developing drug products all the way to the clinical stage. Currently four full-time and five part-time employees are part of the international team. Main focus area is the development of drugs to treat pulmonary infections. Right now, QRM-003 is under development, which repurposes a known antibiotic in tablet form into a formulation for inhalation administration. QRM-003 will be used for the treatment of pulmonary infections with non-tuberculous mycobacteria. Patients with compromised immune systems (e.g. cystic fibrosis patients) are prone for these types of infections. Prevalence of NTM infections is increasing globally. (jol)
