

Monitoring SARS-Cov-2 pathogenesis and assessment of therapeutic response in a preclinical model

AIM

Implementing [18F]FDG-PET/CT imaging to monitor the early phase of SARS-Cov-2 infection in animal

METHODS

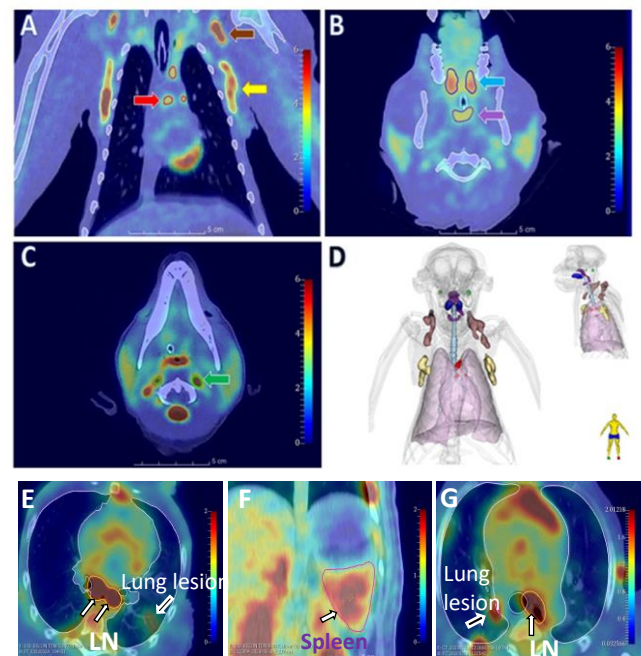
- Young animals exposed to SARS-CoV-2
- Computed tomography CT to characterize lung lesions
- Whole-body [18F]FDG-PET to characterize lymph node and lung hypermetabolism

RESULTS

- Mild COVID-19 symptoms observed in animals including typical lung lesions
- FDG metabolism, revealed by [18F] FDG PET, significantly higher in the lungs, nasal cavities, lung-draining lymph nodes, and spleen of animals

CONCLUSION

- [18F]FDG-PET/CT imaging of SARS-CoV-2 infected animals provides strong and transposable readouts to monitor COVID-19 disease and the efficacy of drug candidates

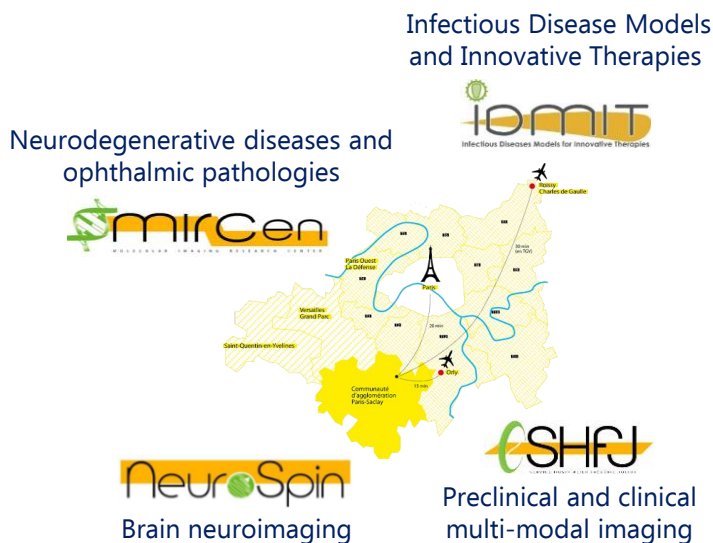


PET-CT images of [18F] FDG uptake in an animal exposed to Sars-CoV-2. (A) Chest frontal slice with lymph node hypermetabolism in clavicular (brown arrow), mediastinal (red arrow) and axillary (yellow arrow) regions. (B-C) Transversal slice with hypermetabolism in tonsil (blue arrow), naso-pharynx associated lymphoid tissue (purple arrow) and lymph node in cervical regions (green arrow). (D) 3D representation of [18F] FDG hypermetabolism. (E-G) Increased [18F] FDG uptake in lung lesion and spleen.

PASREL-Imagerie: *in vivo* imaging to de-risk your medical innovations

A unique synergy of expertise & technologies to support your innovative projects

- The synergy of four complementary and multidisciplinary centers (IDMIT, MIRCen, SHFJ and NeuroSpin) contributing to major advances in various research fields



From preclinical POC to drug development in patients



PET, MRI, ultrasound, multimodal imaging
and radiopharmaceutical production

- Expertise and state-of-the-art translational *in vivo* imaging platforms:
 - * 4 medical research imaging centers
 - * 34 technological platforms for preclinical and clinical research
 - * 10 research laboratories

- An access to a full range of scientific and technological solutions through one-stop shop and a dedicated project manager to support partner innovative developments from preclinical to clinical stages



PASREL
imagerie