

Secrétariat général

Service de la communication

**Video 3_ - Interview with Professor Ratib
ENGLISH VERSION**

Screen text:

HUG – Hôpitaux Universitaires de Genève.

Prof. Osman Ratib

Professor and Chair of Department of Medical Imaging and Information Sciences
University Hospitals of Geneva.

Interview of Prof. Osman Ratib 29 April 2010

Audio starts: 00:00:07

M. Giuseppe Costa – Journalist *Pulsations*, University Hospitals of Geneva:

Professor Osman Ratib [PH] the University Hospitals of Geneva has acquired a new PET -MR scanner. What are its advantages?

Prof. Osman Ratib – Professor and Chair of Department of Medical Imaging and Information Sciences University Hospitals of Geneva:

This new device is combining –for the first time–two whole body scanners that were traditionally impossible to put together – an MRI and a PET scanner. It was traditionally impossible to put them together because the magnetic field of the MRI prevents a PET scanner from functioning properly and creates major artifacts that were considered impossible to overcome for a long time. **[00:00:42 – screen text, see below]** Thanks to this new technology Phillips Healthcare has developed, they succeeded to put those two devices into one room separated by one bed where the patient can go from one scanner to another and obtain images that perfectly align. **[00:00:53 –screen text, see below]** MRI images provide anatomy and tissue characterization combined with metabolic imaging obtained from PET, so we can see function and metabolism of the tissue. **[00:01:08 –screen text, see below]** And thanks to new molecular imaging and molecular tracer that we inject into the patient, we are able nowadays to see and follow some tissue characterization and tissue activities very precisely thanks to hybrid imaging.

Journalist: What are the clinical indications where this new device is particularly useful?

O.R.: We believe that the combination of the two modalities will be particularly useful for the follow-up and detection of cancers in oncology. The combination of anatomy from MRI and metabolism of radio-labelled tracers for PET will have an advantage in following and predicting as well as monitoring treatment of cancers and also being more specific on how patients will respond to those treatments. We also think that hybrid imaging will have more potential in other domains, particularly in cardiovascular imaging as well as in neurology and in detection and evaluation of degenerative disease and neurological diseases.

Journalist: Which patients will be able to benefit from this new technology?

O.R.: Many patients today already have MRI and PET as part of their clinical follow-up and work-up, and they get those two studies at two separate times, which means they have to come twice and have two different investigations done. We think that it is going to be a major improvement in patient comfort to be able to do those two studies at the same time in one single machine. On the other hand, we believe that having those two modalities together will also improve the quality of our diagnostic and accuracy of our diagnosis. We believe that it will become a major player and have an impact in some of the new strategies and clinical work-up of some patients, especially in cancer and more particularly in evaluation of efficacy of some of these treatments and follow-ups with the patient to detect those who may or may not respond to the treatment that is being applied.

Journalist: You are also planning some research projects to demonstrate the added value of this technology. Which domains are you going to explore?

O.R.: In our collaboration agreement with Philips Healthcare, we have agreed to evaluate the impact and the added value of these hybrid imaging techniques especially in some very specific domains of oncology and cancer follow-ups. We have chosen three domains where we think it may have a major improvement or impact, one of them being for head and neck cancers. Patients get very aggressive surgical treatments and it is very difficult to identify recurrence or changes in cancer in those modified anatomies. We believe that adding PET and MRI together in one single superimposed image will be a major improvement compared to what we do today where the two images are being acquired at different times and are sometimes very difficult to overlap or combine. The other domain we have selected is for prostate cancer where it was very important to be able to detect early on recurrence of cancer. We also have the same difficulty combining MRI imaging with metabolic imaging of PET today so we think having those two images superimposed will really improve the quality and the performance of our diagnosis in detecting early recurrence of those cancers. The third domain that we selected is for breast cancer where MRI is becoming a major player in detection and follow-up of those cancers. With improvement in technology, we can now have more specific analysis of those cancers especially in very complex cases. We believe that adding the PET images in a perfectly aligned way to the MRI images will add the metabolic dimension to

investigations which will allow more precise and accurate detection and diagnosis and follow-up on the effects and efficacy of some of the treatments.

Journalist: The scanner in Geneva is the first one in Europe. The only other one is in Mount Sinai in New York. What kind of collaboration agreement do you have with your American colleagues?

O.R.: Thanks to our track record in molecular imaging and in PET imaging especially in oncology, we have been selected by Phillips Healthcare as the first site in Europe to benefit from this technology to evaluate its impact in these areas. In New York, a second machine was installed practically at the same time as us - Professor Fayad is renowned for his work in cardiovascular plaque imaging and will focus on those areas and develop the technology for that particular application. We will certainly benefit from all these developments that they will work on in New York and on our side; we will also provide them with our adjustments and protocols that we will develop on oncology applications. The two groups will definitely work very closely together. We have several projects to collaborate on and already have specific research projects together. **Screen text**

00:00:42

MR

- Achieva 3T X-series
- High imaging resolution
- Increased throughput
- Ease of workflow
- Premium applications
- Diffusion
- Angiography
- SENSE

Whole body coverage. An advanced imaging breakthrough.

00:00:53

Improved co-registration patient remains in the same scan position with RF coils in place for both the MR and PET.

00:01:08

PET

- Exclusive TruFlight Time of Flight technology
- Consistent performance with patients of all sizes
- Minimized patient dose
- Fast acquisition speed
- Market leading image quality