Chronic metabolic liver diseases: new XL probe dedicated to obese patients to measure liver stiffness and assess fibrosis.

De Lédinghen, V[1,2], Rigalleau, V[3], Vergniol, J[1],Foucher, J[1], Merrouche, W[1], El-Hajbi, F[1], Fournier, C[4], Sandrin, L[4], Miette, V[4]

[1] Service d'Hépato-Gastroentérologie, Hôpital Haut-Lévêque, Pessac, France
[2] INSERM U889, Université Victor Segalen, Bordeaux, France
[3] Service de Nutrition, Hôpital Haut-Lévêque, Pessac, France
[4] Echosens, Paris, France

Introduction: Vibration-Controlled Transient Elastography (VCTE^{TM}) based Fibroscan® is a non invasive and rapid technique used to asses liver stiffness. Clinical interest of liver stiffness measurement (LSM) using Fibroscan® has been demonstrated for chronic liver diseases and for nonalcoholic fatty diseases. Studies showed a strong correlation between stiffness and fibrosis. However, the LSM can be tricky in obese patient due to their large subcutaneous fat thickness. A new procedure with new probe (XL) and new algorithms was developed. This prospective study aims to assess the feasibility of LSM when using this probe in patients with a body mass index (BMI) ≥ 30 kg/m² compared to the M probe (standard morphology).

Methods: 99 patients were included (mean BMI 40.5 kg/m²). LSM was performed using both M and XL probes. A blood sample was taken to assess usual biological parameters and simple readily available non invasive fibrosis blood markers.

Results: LSM was successful in 45% of cases with the M probe, versus 76% of cases with the XL probe ($p<0.001$). 59 % of those who could not be measured with the M probe could successfully be measured using the XL probe. In the 44 patients successfully measured with both probes, LSM was correlated with biological parameters.

Conclusions: Obesity is a growing public health concern which requires dedicated liver evaluation procedures due to the patients' morphology and/or the specific diseases. Fibroscan® with new XL probe allows liver stiffness measurement in overweight and obese patients and shows promising results for the evaluation of liver fibrosis.