TBS EXPERT INTERVIEW & COMMENTED CLINICAL CASE

TBS by Dr Fabio Massimo Ulivieri, MD, Italy [1]

Dr Ulivieri is part of the Italian team who worked on Bone Quality in Sub-clinical Hypercortisolism[2], based on the assessment of microarchitecture with TBS.
Dr Ulivieri gives us the feedbacks of his experience with TBS in both Research and Clinics

Medimaps: *Can you say a few words about your published study on TBS for our readers?*

Dr. Ulivieri: *"Patients with adrenal incidentalomas and subclinical hypercortisolism are at risk of fracture independently of bone mineral density and possibly due to reduced bone quality. Scarce data are available regarding the use of TBS in patients with glucocorticoid-induced osteoporosis and no study evaluated its use in endogenous hypercortisolism. For these reasons we have studied subclinical hypercortisolism using TBS tool. Our data suggest that in subclinical hypercortisolism bone microarchitecture, as measured by TBS, is altered and TBS is useful in detecting patients with adrenal incidentalomas at risk of fractures."*

M: *Do you use TBS routinely?*

Dr.U: *"Yes. I use TBS routinely in my bone metabolic unit. All DXA lumbar scans are accompanied by TBS results."*

M: *How would you describe TBS in a few words, and what is TBS added value according to you?*

Dr.U: *"TBS brings a relevant information about bone quality, calculated from the 2D projection images acquired during a DXA lumbar Spine scan. TBS is used in addition to BMD to subcategorize patients according to their level of risk. As demonstrated by numerous studies, TBS is strongly correlated with bone microarchitecture, regardless of BMD. That is why TBS is bringing valuable information in bone mineral densitometry for fracture risk assessment in postmenopausal osteoporosis."*

M: *Since you use TBS in your clinical practice, have you noticed a change in your diagnosis and medical decision?*

Dr.U: *"In my daily practice, TBS is a useful tool to assess fracture risk in patients with normal or low BMD and one or more clinical risk factors. We observed that patients with low BMD and low TBS present more likely fractures than patients with low BMD but high TBS. I recommend to perform TBS during all the lumbar DXA scans and to pay attention when a patient presents normal BMD and low TBS. I also recommend to include in DXA report TBS data to improve BMD measurement interpretation."*

M: *Could you give us an example of patient that illustrates TBS added value in your practice?*

Dr.U: *"I have selected this patient case*, as we understand that with TBS indicating a strong degradation of the bone microarchitecture status, we may consider treatment options. That would have been excluded without TBS. Indeed, I have particular attention to evaluate treatment options in patients with normal bone mineral density and low or very low TBS."*

M: *As you know, TBS is getting widely used. As one of the first users in Italy, what would you like to say about TBS?*

Dr.U: *"I suggest my colleagues who do not know about TBS to read scientific literature about TBS in post menopausal osteoporosis and to focus on correlations between TBS results and fracture risk as results are impressive."*

1: MD, Unit of Nuclear Medicine Fondazione IRCCS Cà Granda Ospedale Maggiore Policlinico, Mangiagalli e Regina Elena, IRCCS Department of Medical Sciences, University of Milan, Italy

2: "Bone quality, as measured by Trabecular Bone Score (TBS), in patients with adrenal incidentalomas with and without subclinical hypercortisolism", C. Eller-Vainicher, V. Morelli, F. M. Ulivieri, S. Palmieri, V. Zhukouskaya, E. Cairoli, R. Pino, A. Naccarato, A. Scillitani, P. Beck-Peccoz, I. Chiodini, JBMR

* Dr Ulivieri selected Clinical Case

Woman aged 59, Menopause at 54yr, no HRT

Low calcium intake

Physical activity <3 hrs/week

BMD at baseline (2004): Normal

Back pain since 5 months

Lumbar spine X ray: no fracture

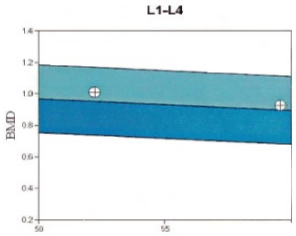
BMD in 2012: 10% reduction (fracture risk doubled)

TBS deteriorated

Biochemical bone turn over markers: low vitamin D level (insufficiency).

Medical Decision Without TBS:

- Calcium and Vitamin D,
- Bone densitometry follow up



BMD (g/cm^2)	-	T-Score
0,927	-	**-1,1**

Medical Decision With TBS:

- Calcium and Vitamin D
- Pharmacological Treatment
- Bone densitometry follow-up