

Case report 1

Case history

The patient is a woman, 60 years old, with type 2 diabetes and hypertension, but so far no history of diabetic complications. You consider whether or not to intensify treatment.

Visit 1

The patient is a female of 60 yrs with type 2 diabetes since 10 years, and mild, longstanding hypertension, non-smoker; background diabetic retinopathy, no clinical signs of diabetic neuropathy and nephropathy (no microalbuminuria, and an eGFR of 100 ml/min). She experienced some discomfort in the left calf after a few hundred meters walking. Her current medication consists of Metformin 1000 mg twice daily and Glimpiride, Lisinopril 20 mg, Simvastatin 40 mg and Acetylsalicylic acid 80 mg, all once daily.

At physical examination she is 78 kg at a length of 168 cm, BMI 28 kg/m². Her blood pressure is 150/80 mmHg, with a regular pulse of 76/min; you cannot feel pulsations of her tibial posterior and dorsalis pedis arteries. She does in both feet feel the vibrations of the tuning fork at the toes.

Laboratory examination:

HbA1c 7.5%, 58 mmol/mol

Total cholesterol 4.5 mmol/l

HDL 1.2 mmol/l

LDL-cholesterol 2.7 mmol/l

Triglycerides 1.9 mmol/l.

UKPDS risk engine: calculated 10-years risk of fatal CV disease is 8.8%.



No need to intensify treatment.

You also perform an AGE Reader measurement

The AGE Reader measurement report (see backside of this report) clearly shows that she is at very high risk of developing diabetic complications, as shown in the measurement report. She is in the red zone of risk

Discussion

This prediction with the AGE Reader is based on (CV) mortality risk prediction algorithms developed in a large type 2 diabetes cohort with several years of follow-up (Lutgers 2009). This study showed that 25-30% of those having a low-intermediate risk according to the UKPDS risk score should be reclassified, to high risk by adding the AGE Reader measurement (AF value). The major additive predictive value of the AGE Reader can be understood by the differences in pathogenetic mechanisms covered by the UKPDS risk engine (mainly conventional risk factors) and the AGE measurement (cover metabolic legacy and oxidative stress). Thus, the high AF value in this patient does justify to reclassify her to a high risk, and then intensify treatment.

Conclusion

The intermediate 'grey zone' 8.8% score of the UKPDS risk score in this 60-year old woman with type 2 diabetes does not really help to decide about intensifying treatment or not. The high AGE Reader measurement with a high AF value justifies intensifying treatment.

Summary

If the UKPDS risk score is in the 'grey' zone and the AGE Reader measurement shows a high risk, the treatment should be intensified.

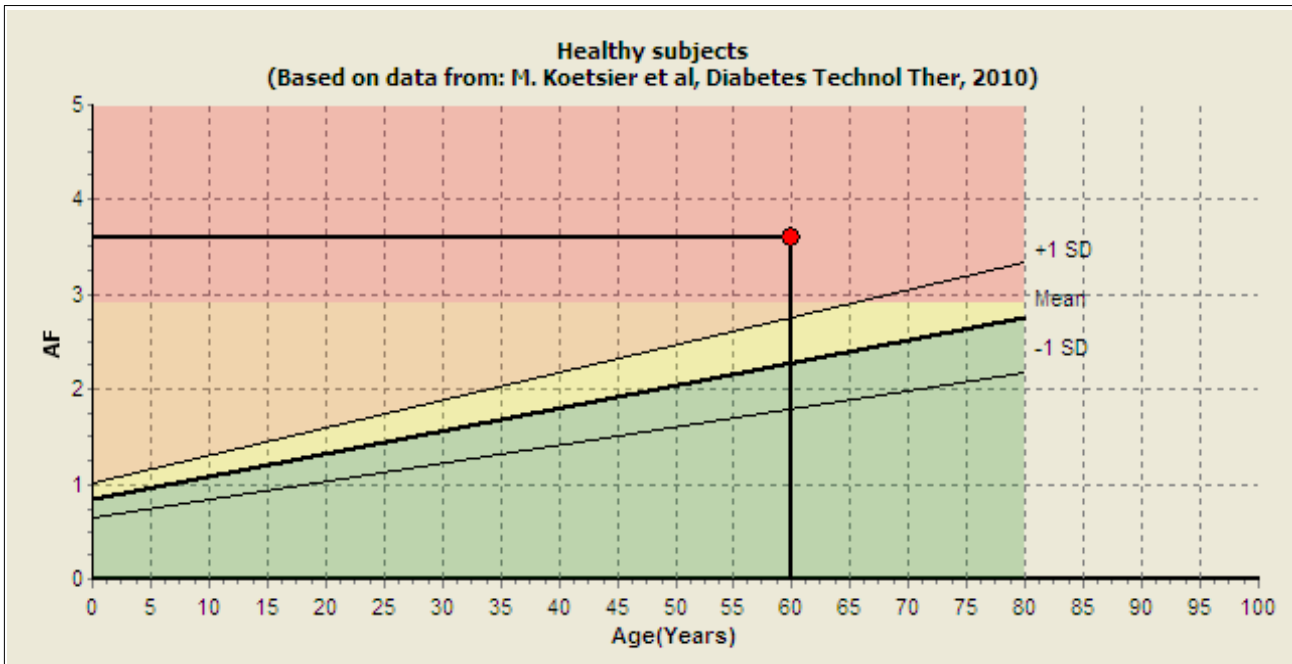
Measurement report

Number: 05032007
 Name: Jane Doe
 Gender: Female
 Age: 60

Measurement Results

AF 3.6

Measurement setting: Triple Measurement
 Measured on: 20/05/2010 14:08



- Normal Group: No CV risk
- Risk Group II: Increased CV risk
- Risk Group I: Limited increase of CV risk
- Risk Group III: Definite CV risk

AGEs

DiagnOptics AGE Reader is a medical device to estimate cardiovascular risk. The AGE Reader non-invasively assesses the accumulation of advanced glycation endproducts (AGEs) in the skin using fluorescence of ultraviolet light. AGEs play a pivotal role in the development of chronic complications of diabetes and other common conditions. The amount of AGEs in tissues serves as an important risk predictor of such complications.