Measurement of Galectin-3 and of Suppression of Tumorigenicity 2 in participants at the “Tor des Géants”

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ECSS Malmo 2015
Galectin-3
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Stable class II-IV heart failure
at hospital discharge or office consultation
Diagnosis confirmed: ↑ BNP/NT-proBNP* during course

BLOOD
galectin-3 level

≤17.8 ng/mL
Low Risk
Counsel appropriately
Usual care follow-up

>17.8–25.9 ng/mL
Moderate Risk
Counsel appropriately
Intensify follow-up
+ Other risk features
⇒ Intensify medical management
⇒ Care management

>25.9 ng/mL
High Risk
Counsel appropriately
Monthly or more frequent follow-up
⇒ Intensify medical management
⇒ Care management
⇒ Advanced strategies

Reassess galectin-3 level in 6 months and follow-up
ST2: A DECOY RECEPTOR

Pro-IL-33
Fibroblast
Caspase-1

IL-33

sST2

Myocyte

IRAK
MyD88
ERK
NFκB

CARDIOPROTECTION

Adapted from Kakkar et al. Nat Rev Drug Discov 2008
The « Tor des géants »
Aim of the study

• To examine the evolution of Gal-3 and ST2 in trail runners who ran one of the most challenging ultra-marathons in the world: the Tor des Géants (330 km, altitude range: 24000m).
Methods

• Levels of plasma Gal-3 and ST2 were determined at 4 times:
  ➢ before the start
  ➢ after 158km in 33 trailers
  ➢ at the end
  ➢ 3 days after the end of the race

• Samples were directly centrifuged and frozen at -80°C.

• Gal-3 measurement was performed on the VIDAS (Biomerieux) and ST2 was analyzed with the Presage ST2 Assay (Critical Diagnostic).
Results
Results
Discussion

- Correlation between Gal-3 and ST2 \(\Rightarrow\) cardiac fibrosis and inflammation.
- Variation to different degrees.
- NSAIDs and painkillers.

\(\Rightarrow\) The results of this study demonstrate that this exercise was associated with biochemical abnormalities that may reflect adverse consequences on cardiac structure as fibrosis.
Thank you for your attention