Management of Creatine Kinase test requests in patients with acute coronary syndrome

Paloma Salas Gómez-Pablos, Sara Martínez Martínez, Verónica Camacho Guillén, Josep Miquel Bauça
Catlab Laboratory, Barcelona, Spain
Hospital Universitari Son Espases. Palma de Mallorca, Spain

127

BACKGROUND

Suspicion of acute coronary syndrome (ACS), is a frequent clinical situation in emergencies.
Biochemical markers may be of great help. Troponin-T (hsTnT) and I are currently the most useful.

According to both international and Spanish national recommendations, creatine kinase (CK) and CKMB should neither be used for diagnosis, nor for follow-up of myocardial infarction.

In our hospital, before 2016, the testing protocol for ACS included troponin T and CK. A working group was created in 2016 to improve laboratory requests (ICU, Emergency Dept and Cardiology) and it was decided to exclude CK from the profile, although giving the physician's freedom to request CK additionally.

GOALS

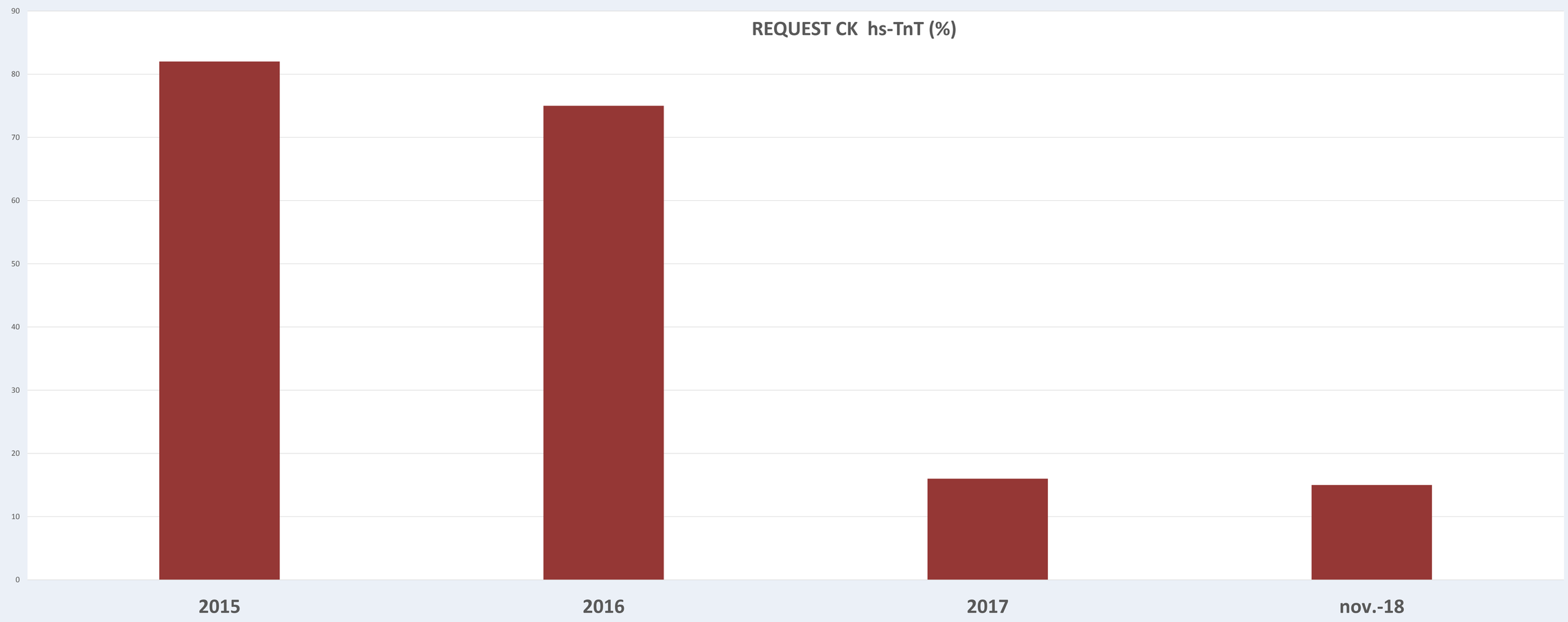
- To verify the physicians' adherence to the recommendation of not doing CK or CK-MB for diagnosis of ACS.
- To study the behavior of CK requests in cases in which there is suspicion of ACS and Troponin T is below the upper reference value.

METHODS

The total number of hsTnT and CK requests were extracted from the laboratory information system for years 2015 to 2018.
The percentage of hsTnT+CK requested together was calculated, and compared among years. For results with negative hsTnT and a positive CK, the medical records of the patient were examined for the final diagnosis.

RESULTS

In 2015, 6,555 hsTnT determinations were performed, 82% were accompained by a CK analysis request. In 2016, there were 7,708 hsTnT requests, 75% of which had also a CK request. In 2017, after the implementation of the new profile, 7,787 hsTnT were requested, and only 16.8% had a CK in the same request. Up to November 2018, the percentage of troponins together with a CK request was 15%. From 1,314 hsTnT+CK requests in 2017, up to 23 patients showed positive CK result while hsTnT was below the upper limit of reference. None of them was diagnosed with an ACS.



CONCLUSION

The professionals have adhered correctly to the recommendation of not requesting CK-MB or CK in the study of myocardial injury, resulting in 78% fewer determinations. The medical records of patients show that for those cases when both tests are requested, CK does not provide extra information to troponin to rule out ACS.

www.catlab.cat

@CatlabAIE

5th EFLM-BD Conference on Prenalitical Phase. Zagreb 22-23 March 2019