

Spotting Spodick Sign in the Diagnostic Dilemma—Reply

by Mochamad Yusuf Alsagaff

Submission date: 19-Apr-2023 11:02AM (UTC-0400)

Submission ID: 2069380586

File name: in_the_Diagnostic_Dilemma-Reply_JAMA_Internal_Medicine_2022.pdf (44.66K)

Word count: 716

Character count: 3840

Letters

COMMENT & RESPONSE

In Reply We would like to express our gratitude to Dr Wu and colleagues for recognizing Spodick sign on the results of a post-percutaneous coronary intervention (PCI) electrocardiogram (ECG) in our case report.¹ Spodick sign is characterized as a downsloping TP segment that is most clearly identified in lead II and the lateral precordial leads. Although Spodick sign can distinguish pericarditis from ST elevation myocardial infarction (STEMI), it should be noted that there are no absolute pathognomonic signs to differentiate STEMI or pericarditis. One sign might be found concurrent to another disorder, albeit with a lower probability.² Makaryus and colleagues³ and Chaubey and Chhabra⁴ reported that Spodick sign was found in 80% of cases of pericarditis, but the latest report by Witting and colleagues² showed that the frequency of Spodick sign was 29% in pericarditis and 5% in STEMI. These authors also reported that the median number of leads showing downsloping TP segment was 4 (range, 1-6) in patients with pericarditis and 3 (range, 1-6) in patients with STEMI.² Furthermore, Spodick sign criteria are only met when more than 1 lead shows the downsloping of the TP segment.

In this patient case,¹ it is unclear whether Spodick sign was present before the PCI ECG. Downsloping of the TP segment in leads V₄ and V₆ or lead II can be caused by either pericarditis or STEMI. In circumstances when pericarditis and STEMI coexist, overestimating Spodick sign before the PCI ECG to indicate pericarditis rather than STEMI may further disguise the STEMI-derived need for reperfusion. However, Spodick sign becomes more apparent once reperfusion has been achieved. Apart from the rapid heart rate and long PR interval, the masking of Spodick sign before the PCI ECG may have been caused by the subtotal occlusion of the left circumflex artery.

We agree that the presence of Spodick sign can be used to distinguish pericarditis from STEMI or to confirm the presence of pericarditis after PCI, as in this case where Spodick sign

favored the presence of pericarditis after reperfusion.¹ However, when pericarditis and STEMI coexist, the presence of Spodick sign may be a poor discriminator, as demonstrated in the studies by Witting and colleagues² and Spodick.⁵ These authors found the sign of downsloping in the TP segment only in uncomplicated acute pericarditis or when evidence of myocardial infarction or acute coronary syndrome was excluded.^{2,5}

1
Mochamad Yusuf Alsagaff, MD, PhD
Terrence Timothy Evan Lusida, MD
Yusuf Azmi, MD

Author Affiliations: Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Airlangga-Dr Soetomo General Hospital, Surabaya, Indonesia.

Corresponding Author: Mochamad Yusuf Alsagaff, MD, PhD, Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Airlangga-Dr Soetomo General Hospital, Mayjen Prof Dr Moestopo St No. 47, Surabaya 60132, Indonesia (yusuf_505@fk.unair.ac.id).

Published Online: July 25, 2022. doi:10.1001/jamainternmed.2022.2811

Conflict of Interest Disclosures: None reported.

Acknowledgment: We appreciate the contribution of Dr Azmi, who was not an author of the published case report, but assisted in the preparation of this response by searching the literature and reviewing the ECG readings.

1. Alsagaff MY, Oktaviono YH, Lusida TTE. Diagnostic dilemma of pericarditis concurrent with ST elevation myocardial infarction. *JAMA Intern Med.* 2022;182(5):551-552. doi:10.1001/jamainternmed.2022.0318
2. Witting MD, Hu KM, Westreich AA, Tewelde S, Farzad A, Mattu A. Evaluation of Spodick's sign and other electrocardiographic findings as indicators of STEMI and pericarditis. *J Emerg Med.* 2020;58(4):562-569. doi:10.1016/j.jemermed.2020.01.017
3. Makaryus JN, Makaryus AN, Boal B. Spodick's sign. *Am J Med.* 2008;121(8):693-694. doi:10.1016/j.amjmed.2008.01.020
4. Chaubey VK, Chhabra L. Spodick's sign: a helpful electrocardiographic clue to the diagnosis of acute pericarditis. *Perm J.* 2014;18(1):e122-e122. doi:10.7812/TPP/14-001
5. Spodick DH. Electrocardiogram in acute pericarditis. Distributions of morphologic and axial changes by stages. *Am J Cardiol.* 1974;33(4):470-474. doi:10.1016/0002-9149(74)90603-1

Spotting Spodick Sign in the Diagnostic Dilemma—Reply

ORIGINALITY REPORT

17%

SIMILARITY INDEX

4%

INTERNET SOURCES

17%

PUBLICATIONS

2%

STUDENT PAPERS

PRIMARY SOURCES

- 1 Hao-Yu Wu, Xiao-Wei Yao, Yi-Wei Cao. "Spotting Spodick Sign in the Diagnostic Dilemma", JAMA Internal Medicine, 2022
Publication 7%
- 2 Michael D. Witting, Kami M. Hu, Aaron A. Westreich, Semhar Tewelde, Ali Farzad, Amal Mattu. "Evaluation of Spodick's Sign and Other Electrocardiographic Findings as Indicators of STEMI and Pericarditis", The Journal of Emergency Medicine, 2020
Publication 5%
- 3 Hong-Li Zhai, Guilan Zhai. "Where Is the Culprit Lesion in the New Electrocardiogram Pattern?", JAMA Internal Medicine, 2022
Publication 2%
- 4 jamanetwork.com
Internet Source 2%
- 5 Basel Abdelazeem, Emad Kandah, Mariem Borcheni, Saed Alnaimat, Arvind Kunadi. "Spodick's Sign: A Case Report and Review of Literature", Cureus, 2020 1%

Publication

Exclude quotes On

Exclude bibliography On

Exclude matches Off

Spotting Spodick Sign in the Diagnostic Dilemma—Reply

GRADEMARK REPORT

FINAL GRADE

/0

GENERAL COMMENTS

Instructor

PAGE 1
