

Spontaneous Huge Subdural Spine Hematoma in a Patient Receiving Dual Anti-platelet Therapy after Drug-eluting Coronary Stent Implantation

Xiongyi Han, Jumin Won, Doo Sun Sim, Min Chul Kim, Yongcheol Kim, Young Joon Hong, Ju Han Kim, Youngkeun Ahn, and Myung Ho Jeong*

The Heart Center and Cardiovascular Convergence Research Center Nominated by Korea Ministry of Health and Welfare, Chonnam National University Hospital, Gwangju, Korea

A 46-year-old male patient visited the emergency department of Chonnam National University Hospital complaining of aggravated back pain. This back pain was sustained for a day and he also complained of cold sweats and trembling of the lower extremities. He had had previously undergone a right coronary stent implantation while admitted for unstable angina at our hospital in 2015. A twelve-lead electrocardiogram (ECG) showed normal sinus rhythm without ST segment change. Laboratory findings showed elevated a white blood cell count of $17800/\text{mm}^3$ ($4800\text{--}7800/\text{mm}^3$) and C-reactive protein (CRP) of 1.00 mg/dL (0-0.3 mg/dL). At the time of admission his blood pressure was 200/160 mmHg, so intravenous antihypertensive agents such as labetalol and nitroglycerin, were injected. For evaluation of his lower leg's tremor, a spine MRI scan was performed on the second day of admission and it showed a subdural hematoma at C6-T7 and L1-2 level (Fig. 1A, Fig. 2A). Since he had received a drug eluting

stent implantation (sirolimus eluting stent, Coroflex ISAR[®]), aspirin and clopidogrel had been prescribed for dual anti-platelet therapy (DAPT) since 2015. The long-term use of anti-platelet drugs could induce a spontaneous spinal subdural hematoma so we stopped using aspirin and clopidogrel and consulted with the orthopedic surgeon about further treatment plans. They suggested supportive care rather than surgical management, as his condition was stable and his symptoms had been somewhat alleviated since admission. On the 6th day after admission, we performed an MRI again and it showed improved in the hematoma compared to the previous exam (Fig. 1B, Fig. 2B). Thus the antiplatelet therapy was stopped. There was adrenal incidentaloma on the CT scan for evaluation of secondary hypertension, but it was not a functioning mass. After 17 days of hospitalization he no longer complained of leg tremors, had stable blood pressure, and was discharged without any cardiovascular events. After a month

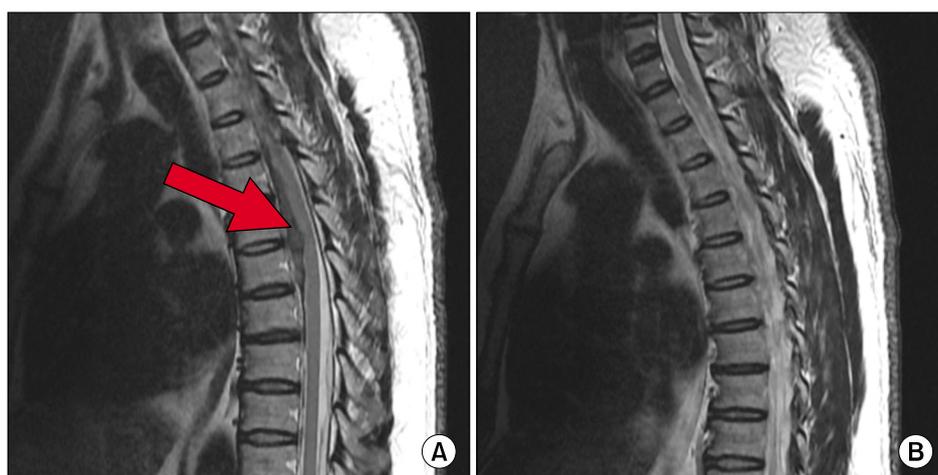


FIG. 1. Thoracic spine MRI (Feb 9 2018) showed subdural hematoma ($17 \times 1.3 \times 0.7$ cm) of C6-C7 and suspicious compressive myelopathy at T5-T6 (A). Follow-up thoracic spine MRI (Feb 14 2018) showed somewhat decreased size of subdural hematoma of C6-C7 (B).

Corresponding Author:

Myung Ho Jeong

The Heart Center and Cardiovascular Convergence Research Center of Chonnam National University Hospital, 42 Jaebong-ro, Dong-gu, Gwangju 61469, Korea

Tel: +82-62-220-6243, Fax: +82-62-228-7174, E-mail: myungho@chollian.net

Article History:

Received April 24, 2018

Revised May 3, 2018

Accepted May 7, 2018

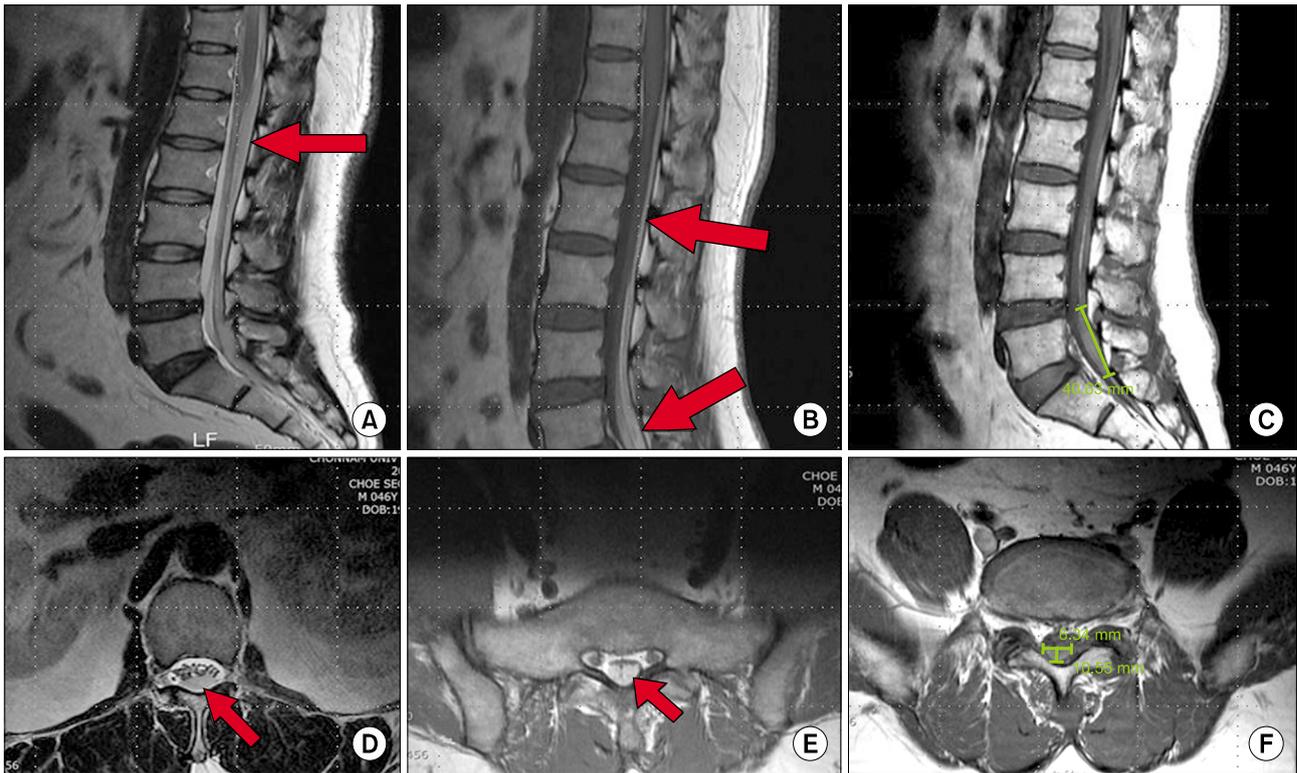


FIG. 2. Thoracic spine MRI (Feb 9 2018) showed suspicious subdural hematoma of L1-L2 and causing moderate central spinal stenosis (A). Follow-up thoracic spine MRI (Feb 14 2018) showed subdural hematoma of T12-S2 causing moderate to severe central spinal stenosis of L5-S2 (B). Follow-up thoracic spine MRI (Mar 12 2018) showed decreased subdural hematoma of L4-S1 (C) and the axial image of MRI (D, E, F).

we checked a follow up MRI and it showed decreased subdural hematoma of L4-S1 and completely absorbed subdural hematoma of cervicothoracic spine (Fig. 2C). At the next visit, we plan to start an aspirin mono-therapy antiplatelet agent based on the MRI results.

Anti-platelet aggregation drugs are essential for patients after stent implantation, but they are prone to internal bleeding. DAPT could cause gastrointestinal events and make cerebral hemorrhage more common. Although the DAPT guidelines reported that the incidence of ischemia was higher than that of bleeding events in the 2017 European society of cardiology (ESC),¹ according to the Korea acute myocardial infarction registry-national institute of health (KAMIR-NIH), the incidence of bleeding events are about 4.1 ~ 9.0%.² Therefore, when we use anti-platelet agents, we must closely observe the changes in conditions and prescribe the prophylactic administration of proton pump inhibitors.

Spinal cord subdural hematoma after long-term use of antiplatelet aggregation drugs is an extremely rare condition, and this is the first case report that we are aware

of. Therefore, we must be cautious when using anti-platelet aggregators and require patients to return for regular follow-ups.

CONFLICT OF INTEREST STATEMENT

None declared.

REFERENCES

1. Valgimigli M, Bueno H, Byrne RA, Collet JP, Costa F, Jeppsson A, et al. 2017 ESC focused update on dual antiplatelet therapy in coronary artery disease developed in collaboration with EACTS: The Task Force for dual antiplatelet therapy in coronary artery disease of the European Society of Cardiology (ESC) and of the European Association for Cardio-Thoracic Surgery (EACTS). *Eur Heart J* 2018;39:213-60.
2. Kang J, Han JK, Ahn Y, Chae SC, Kim YJ, Chae IH, et al. Third-generation P2Y12 inhibitors in east Asian acute myocardial infarction patients: a nationwide prospective multicentre study. *Thromb Haemost* 2018;118:591-600.

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.