

Response to Reviewer

Reviewer #1:

Scientific Quality: Grade B (Very good)

Language Quality: Grade C (A great deal of language polishing)

Conclusion: Minor revision

Specific Comments to Authors: A very nice case presentation. Do you think it was aggressive manipulation of the guiding catheter and wire that caused the dissection as the diagnostic catheter passed smoothly? I would recommend grammar and language revision.

Response: Thank you for this comment. As the guiding catheter is stiffer and bulkier than the diagnostic catheter, we were unable to advance it with applied force similar to that required for the diagnostic catheter. Accordingly, additional pushing was necessary for the guiding catheter to past the ostium of the ARSA into the ascending aorta. We believe that this may have caused the aortic dissection. This is explained in more detail in the Case Presentation section. We also received English language editing.

Imaging examinations

Coronary computed tomography (CT) angiography as an initial screening test revealed significant proximal left anterior descending (LAD) arterial stenosis. Percutaneous coronary intervention was decided. Diagnostic angiography was performed via the right radial artery, which showed 90% stenosis of the mid-LAD. We reinserted the extra backup 3.5 guiding catheter for percutaneous coronary intervention (PCI). **However, we were unable to advance the catheter past the ostium of the right subclavian artery (SCA) to the ascending aorta with a force similar to that required for a diagnostic catheter. Additionally, since the J-tip 0.035-inch guidewire tended to go down the descending aorta, we changed the guidewire to an angled 0.035-inch wire, which after several manipulations and additional forced pushes, appeared as though it successfully approached the ascending aorta although an unusually large loop was formed by it (Figure 1-A).** The patient also complained of sudden chest and back pain. As we suspected aortic dissection, we further performed an aortogram using a 5Fr pigtail catheter via the right femoral artery (FA) only to confirm a dissection flap of the right SCA (Figure 1-B).

Reviewer #2:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Minor revision

Specific Comments to Authors: Iatrogenic acute type B aortic dissection during right transradial intervention in a patient with an aberrant right subclavian artery salvaged by transluminal angioplasty: A case report. This manuscript demonstrates the uncommon complication after the right transradial intervention in the patient with an aberrant right subclavian artery and the salvaged therapy for this situation. The author wrote the manuscript well, concisely, and easy to read. The demonstrated pictures are interesting. However, the authors should be commended on their work. There are a few areas where additional information would enhance the manuscript. 1. In the “abstract,” the author mentioned, “However, after 2 days, the right lower limb was suddenly undetectable”. What did it mean?

Response: We thank the reviewer for pointing out this critical issue. We feel that we have not provided sufficient information for the readers to understand. On the second day of hospitalization, the patient suddenly complained of pain in the right lower limb. We immediately detected that his right femoral pulsation had dramatically decreased to a point where we were unable to detect any pulse in contrast to his normal left femoral pulse at the time. This suggested that his right femoral perfusion was probably compromised due to the propagation of type B aortic dissection. We have revised this part of the manuscript in the Case Presentation section.

TREATMENT

The patient received conservative management, and vital signs were closely monitored in the intensive care unit (ICU). **On the second day of the ICU stay, the patient suddenly complained** of right lower limb pain. We immediately recognized that his right femoral pulsation had dramatically decreased and we were unable to detect any pulse. **However, his left femoral pulse was normal. This suggested that his right femoral perfusion was probably compromised due to the propagation of type B AD.** Serum creatinine level was **also slightly increased (1.2 mg/dL) compared** to the baseline (0.96 mg/dL). Bed-side echocardiography showed no pericardial effusion or intimal flap of the ascending aorta. Follow-up CT aortography demonstrated downstream propagation of the AD into the right common iliac artery (CIA) and external iliac artery (EIA) (Figure 2-B). Other branches of the abdominal aorta, including the celiac trunk, SMA, inferior mesenteric artery, and left CIA, continued to originate from the true lumen without flow limitation. However, the true lumen within the left RA was compromised (Figure 2-B).

2. Author described that this patient had a history of hypertension twice (at “chief complain” and “history of past illness,” which looks redundant.

Response: We thank the reviewer for pointing this out. We have revised our manuscript accordingly by removing hypertension from the list of chief complaints.

Chief complaints

A 73-year-old man presented to the emergency room with intermittent chest pain and shortness of breath (New York Heart Association class II).

3. It would be more impressive if the author provides more information about the “physical examination.”

Response: We appreciate your suggestion regarding this notion. We have added information regarding the physical examination.

Physical examination

His initial blood pressure was 130/80 mmHg with a heart rate of 80 beats per minute. Room air oxygen saturation was 97%. He had a regular heartbeat without a murmur. His lung sounds were also clear. There was no abdominal tenderness or pitting edema.

4. In the “treatment” section, “After two days in the ICU, the right FA pulse suddenly weakened, and the blood pressure of the right lower limb was no longer measurable.” Did the patient complain of any symptoms of limb ischemia (such as pain)?

Response: We thank the reviewer for pointing out this critical issue. We feel that we have not provided sufficient information for the readers to understand. On the second day of hospitalization, the patient suddenly complained of pain in the right lower limb. We immediately detected that his right femoral pulsation had dramatically decreased to the point where we were not able to detect any pulse. The left femoral pulse was normal. This suggested that his right femoral perfusion was probably compromised due to the propagation of type B aortic dissection. We have revised this part of the manuscript in the Case presentation section.

(Updates are provided on the next page).

TREATMENT

The patient received conservative management, and vital signs were closely monitored in the intensive care unit (ICU). **On the second day of the ICU stay, the patient suddenly complained** of right lower limb pain. We immediately recognized that his right femoral pulsation had dramatically decreased and we were unable to detect any pulse. **However, his left femoral pulse was normal. This suggested that his right femoral perfusion was probably compromised due to the propagation of type B AD.** Serum creatinine level was **also slightly increased (1.2 mg/dL) compared** to the baseline (0.96 mg/dL). Bed-side echocardiography showed no pericardial effusion or intimal flap of the ascending aorta. Follow-up CT aortography demonstrated downstream propagation of the AD into the right common iliac artery (CIA) and external iliac artery (EIA) (Figure 2-B). Other branches of the abdominal aorta, including the celiac trunk, SMA, inferior mesenteric artery, and left CIA, continued to originate from the true lumen without flow limitation. However, the true lumen within the left RA was compromised (Figure 2-B).

5. Please provide the information on renal recovery after transluminal angioplasty or at the follow-up.

Response: I thank the reviewer for pointing this out. His serum creatinine level recovered to the normal range at the time of discharge. We have modified the manuscript by adding this information to the manuscript.

OUTCOME AND FOLLOW-UP

His limb pain improved immediately after angioplasty. Although, his serum creatinine level increased up to 1.7 mg/dL the next day, it recovered back to the baseline level of 0.9 mg/dL, 3 days post-intervention. The patient was discharged without symptoms in few days. Follow-up CT after eight months showed patent stents in the right EIA and left RA (Figure 3-E). The condition of the patient has remained uneventful for more than a year.

Company editor-in-chief:

The title of the manuscript is too long and must be shortened to meet the requirement of the journal (Title: The title should be no more than 18 words)

Iatrogenic acute type B aortic dissection during right transradial intervention in a patient with aberrant right subclavian artery salvaged by transluminal angioplasty: A case report

Response: Thank you for letting us know the word limit of the title. We have shortened the title to 'Iatrogenic aortic dissection during transradial intervention salvaged by transluminal angioplasty in a patient having aberrant right subclavian artery.'

Title before revision: Iatrogenic acute type B aortic dissection during right transradial intervention in a patient with an aberrant right subclavian artery salvaged by transluminal angioplasty: a case report

Title after revision: Iatrogenic aortic dissection during transradial intervention salvaged by transluminal angioplasty in a patient having aberrant right subclavian artery