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Commentary: A star shines brightest in the dark: The way surgeons work in the heart team

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In the September 2020 issue of the *Journal*, Cangut and Greason¹ reported a surgical repair of iatrogenic acute type A aortic dissection (AD) that had developed during transfemoral transcatheter aortic valve implantation (TAVI). The authors commendably saved a patient, who could have otherwise gone through a catastrophic course, with a prompt and smart surgical strategy. Under retrograde type A AD, which presumably occurred during the insertion of the delivery device, the authors first completed the deployment of TAVI and simply repaired the dissected aortic root using a felt-sandwich technique, leaving the TAVI valve remaining. There was a small entry tear at the proximal descending thoracic aorta, and ascending aorta replacement was performed as a rescue therapy, considering the frailty of patient.

AD is a well-known vascular complication of TAVI, albeit rare. Meanwhile, since most dissections are confined to vascular access and rarely extend to the thoracic level, acute type A AD is extremely rare, and only few reports are available.² There may be 2 dominant clinical scenarios in which acute type A AD can occur. At first, antegrade type A AD can develop from the aortic valve annulus level during balloon aortic valvuloplasty before the valve implantation.³ Second, aortic intimal wall injuries during the insertion of delivering device can trigger ante/retrograde acute type A AD, as in the present case.⁴⁻⁶ The intimal injury can occur anywhere from the level of aortic arch

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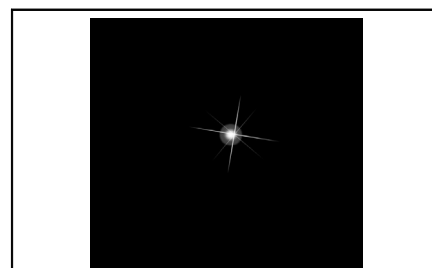
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CENTRAL MESSAGE

Iatrogenic type A aortic dissection complicated during TAVI procedure was successfully treated by a heart team. Accumulation of such experiences will pave the way for the surgeons in the heart team.

to ascending aorta, but it seems that retrograde type A dissection scarcely occurs from the vascular access site at the transfemoral setting. Prompt and accurate recognition for the underlying cause of AD will be paramount to rescue this chaotic and overwhelming complication.

Due to its rare presentation, literature reporting the outcomes of surgical management for iatrogenic acute type A AD developed during transfemoral TAVI is limited. Nevertheless, it has been perceived as a devastating complication when glancing the similar experiences in the cardiac or aortic surgery with operative mortality of 30% to 50%.⁷

It seems that the authors correctly recognized the cause of intraprocedural AD, and the subsequent procedures were adequately performed without delay. The patient could have died if the TAVI device was retrieved instead of completion of the procedure. The rescue surgery was also performed as smartly as needed. It was the moment when the heart team brightly shined.

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