

## An Uncommon Complication During Trans-Aortic Valve Replacement

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# An Uncommon Complication During Trans-Aortic Valve Replacement

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## BACKGROUND

- Trans-aortic valve replacement (TAVR) is an alternative method of therapy for severe aortic stenosis in patients who are deemed at high risk for conventional aortic valve replacement.
- However, although minimally invasive, TAVR procedure is not free of complications.

## OBJECTIVE

- We report a case of aortic embolization of the TAVR valve successfully managed by capture and deployment of the embolized valve in the descending aorta.

## CASE REPORT

- 85 year old male with history of coronary artery disease status post-PCI and severe aortic stenosis underwent TAVR via the femoral arterial approach with rapid cardiac pacing performed at the time of implantation.
- Initial balloon aortic valvuloplasty with a 23 mm balloon was performed. Thereafter a 26 mm Edwards-Sapien bio- prosthetic aortic valve was brought into place at the aortic annulus for placement (**Figures 1 & 2**).
- During the placement procedure, the valve embolized into the ascending aorta (**Figure 3**) when a fusion beat occurred (increase in pulse pressure) (**Figure 4**) in the midst of rapid cardiac pacing.

## IMAGING

Figure 1



Figure 2

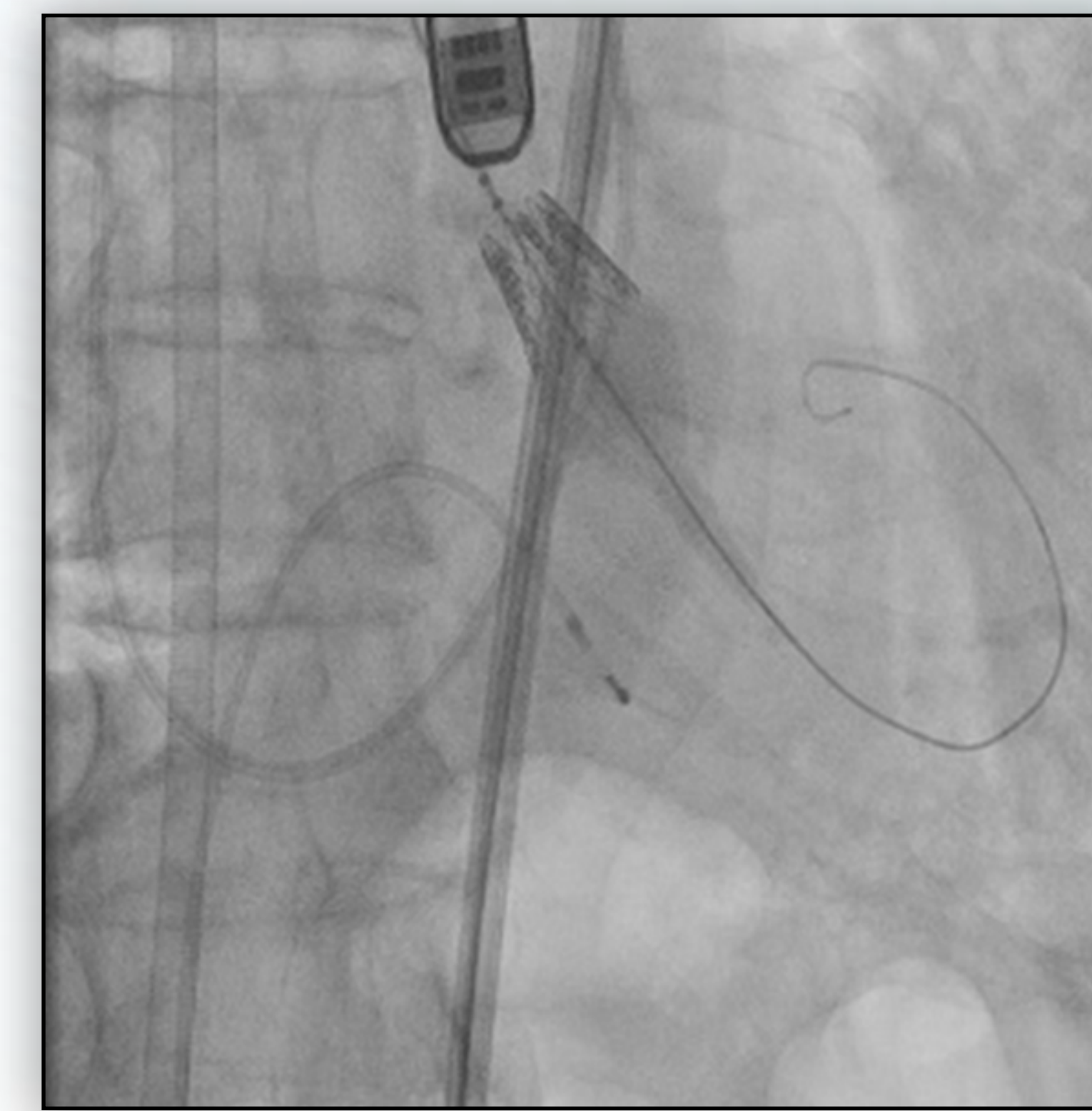


Figure 3

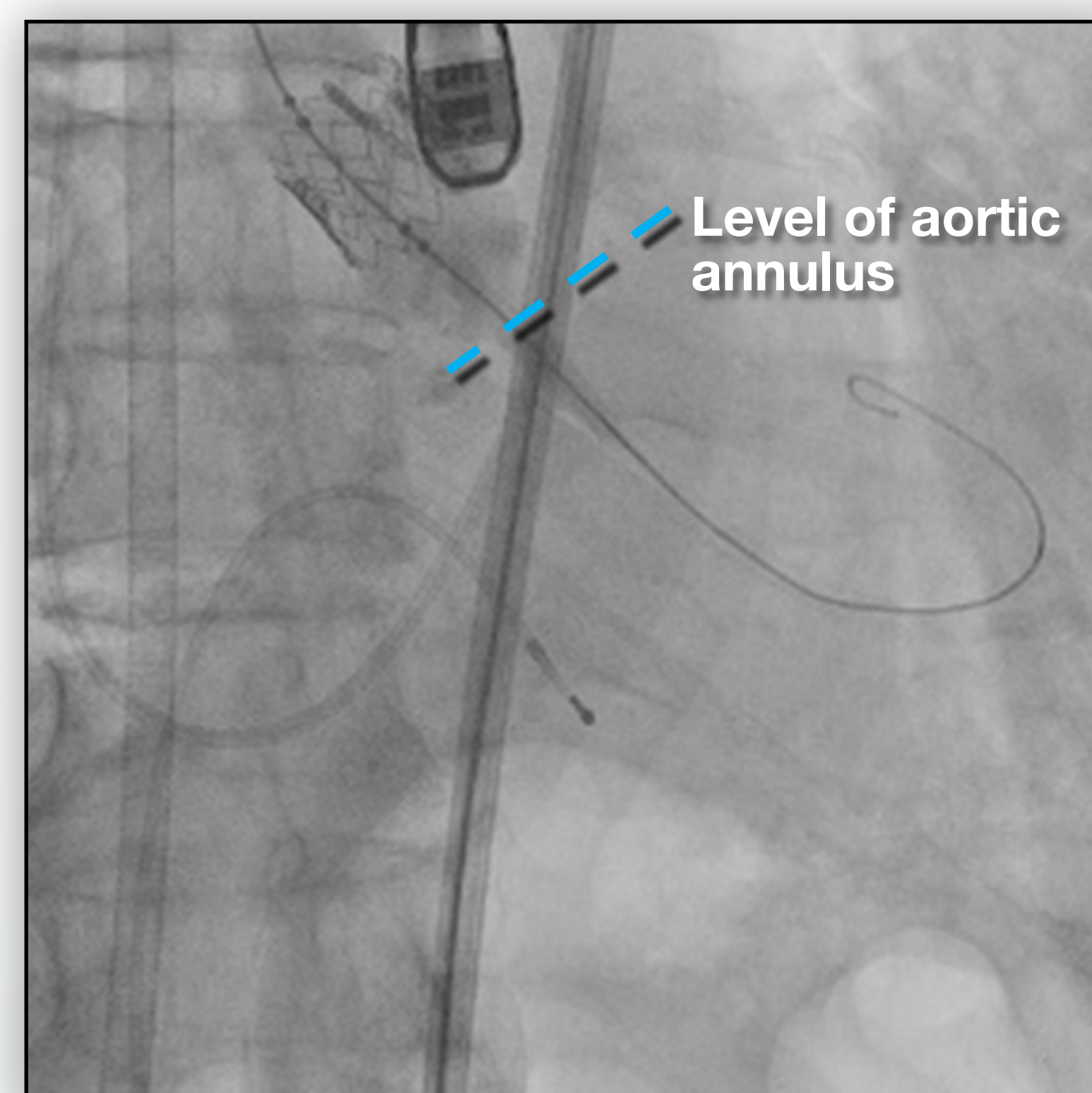


Figure 4

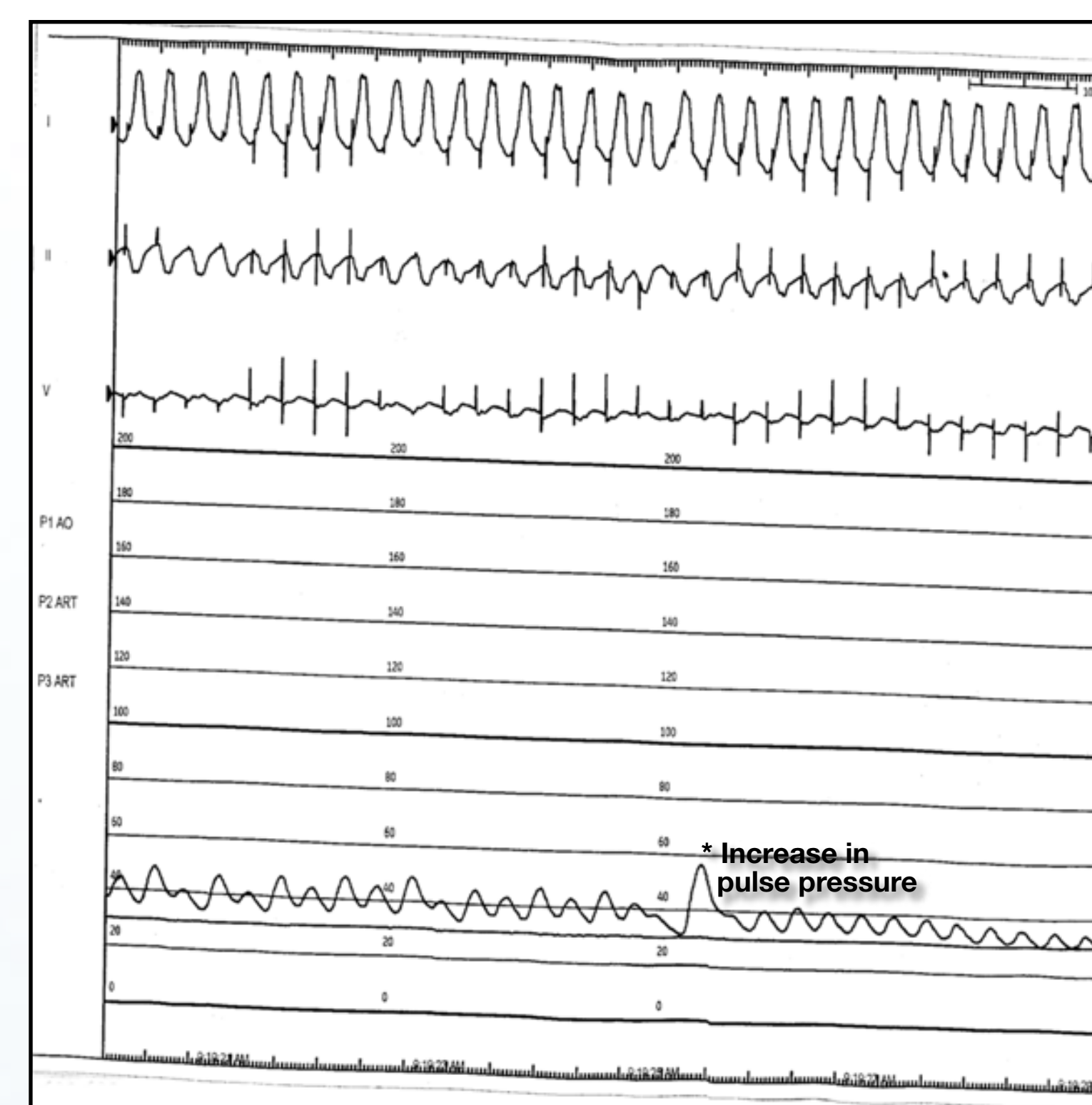


Figure 5



Figure 6



## CASE REPORT (Continued)

- The embolized valve was captured, pulled back and deployed in the descending aorta using balloon inflation (**Figure 5**).
- Thereafter a second 26 mm Edwards-Sapien bio-prosthetic aortic valve was inserted via the initial fully deployed TAVR valve and successfully placed at the aortic annulus (**Figure 6**).

## DISCUSSION

- Published incidence of TAVR valve embolization ranges from 0.5% to 8%.
- Common causes for TAVR valve embolization during implantation are:
  - Placing the valve too aortic.
  - Replacement valve not co-axial to valve plane.
  - Loss of capture during pacing.
  - Inadequate reduction in pulse pressure during pacing.
  - Premature termination of pacing.

## CONCLUSIONS

- Although minimally invasive, the TAVR procedure can have complications, some of which are devastating.
- However, with diligent management many of these can be avoided or mitigated.

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