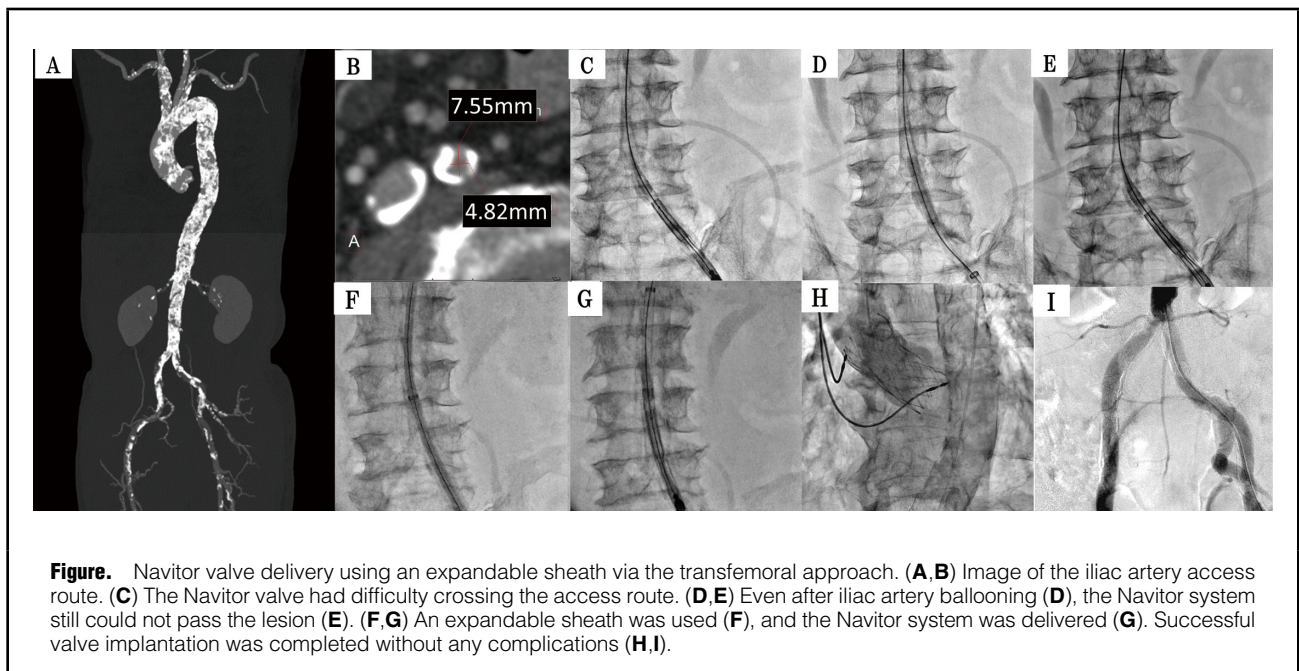


Successful Delivery of the Navitor Transcatheter Heart Valve Using an Expandable Sheath via a Heavily Calcified Iliac Artery Access Route

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An 86-year-old male patient with aortic stenosis was scheduled for transcatheter aortic valve implantation (TAVI). Preprocedural computed tomography showed massive calcifications on the entire aortic route (Figure A). Compared with currently available transcatheter valves, the Navitor valve (Abbott, St. Paul, MN, USA) has the advantage of excellent device deliverability due to 3-dimensional flexibility of low-profile working parts. Left transfemoral TAVI using a Navitor 27mm was considered to be the best option, but the common iliac artery (CIA) had a minimum diameter of

4.82mm (Figure B). A Navitor valve with a sheathless system could not cross the CIA due to the surrounding circumferential calcium (Figure C). Even after 7.0- and 8.0-mm balloon dilation in the CIA (Figure D), the Navitor could not pass through the CIA using extra-stiff wire (Figure E). Because switching to a stiffer wire was considered ineffective, we used an expandable 16-Fr sheath (e-Sheath; Edwards Lifesciences, Irvine, CA, USA). The expandable sheath easily crossed the CIA (Figure F) and enabled access for the Navitor delivery system (Figure G). A Navitor valve was successfully deployed in the aortic

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valve without any complications (**Figure H,I**). Although the Navitor system is designed for better deliverability through access routes during TAVI, it remains challenging to cross narrow vessels with circumferential calcium. A 20-Fr large sheath insertion is generally required to resolve this situation, but using a low-profile expandable sheath may be a better alternative for patients with calcified access routes.

Disclosures

M.Y. has received lecture fee from Edwards, Medtronic, Boston, Abbott, and Daiichi-Sankyo. The other authors have nothing to disclose.

IRB Information

This study was approved by Nagoya Heart Center review board (Reference no. NHC2021-1021-1012-06).