A 74-year-old male was planned to receive transcatheter aortic valve replacement (TAVR) for symptomatic severe aortic valve stenosis. He had type-I functional bicuspid aortic valve (AV) and severe calcification at 3 cusps. Perimeter at annulus was 84.0-mm. Pre-procedural balloon valvuloplasty (BVP) using 23-mm diameter Z-med (B. Braun Medical Inc., Allentown, PA, USA) was done, followed by 34-mm Evolut R (Medtronic, Minneapolis, MN, USA) implantation without recapture. However, serial fluoroscopy revealed vertical line on valve strut, and it was infolding distortion of Evolut R (Figure 1). Infolding distortion persistently remained despite post-procedural BVP using 23-mm Z-med. Patient was hemodynamically stable with mild paravalvular leakage (PVL). Serial echocardiography after 1 day post-TAVR also showed valve distortion with mild PVL (Figure 2). The valve distortion remained on computed tomography after 5 months (Figure 3, Supplementary Videos 1 and 2). Because patient’s hemodynamics was not too bad (peak AV velocity was decreased from 5.06 to 3.13 m/s, and mean pressure gradient was decreased from 60.8 to 20.9 mmHg; from initial to 5 months, respectively), we treated him medically.

Self-expandable TAVR valve have a risk of valve infolding.1) Risk factors of valve infolding in this case were large valve size and annulus calcification. Some papers have reported CoreValve infolding.2) However, there are few reports of newer-generation Evolut R infolding.
Conflict of Interest
The authors have no financial conflicts of interest.

Author Contributions
Conceptualization: Kim MC; Data curation: Kim MC, Kim JH; Formal analysis: Kim MC, Kim JH; Supervision: Cho KH, Sim DS, Hong YJ, Ahn Y, Jeong MH; Visualization: Kim MC, Cho KH; Writing - original draft: Kim MC, Kim JH; Writing - review & editing: Kim MC, Kim JH.
because fluoroscopic inspection is routine clinical practice before valve implantation. Although the most case of valve infolding was successfully managed with BVP, asymptomatic patients without significant PVL can be managed medically.

SUPPLEMENTARY MATERIALS

Supplementary Video 1
Reconstruction of computed tomography images at 5-months post-transcatheter aortic valve replacement: axial images.

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Supplementary Video 2
Reconstruction of computed tomography images at 5-months post-transcatheter aortic valve replacement: 3-dimensional reconstruction.

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REFERENCES