# Supplementary material

# Deep Learning Model to Diagnose Cardiac Amyloidosis from Hematoxylin/Eosin-Stained Myocardial Tissue

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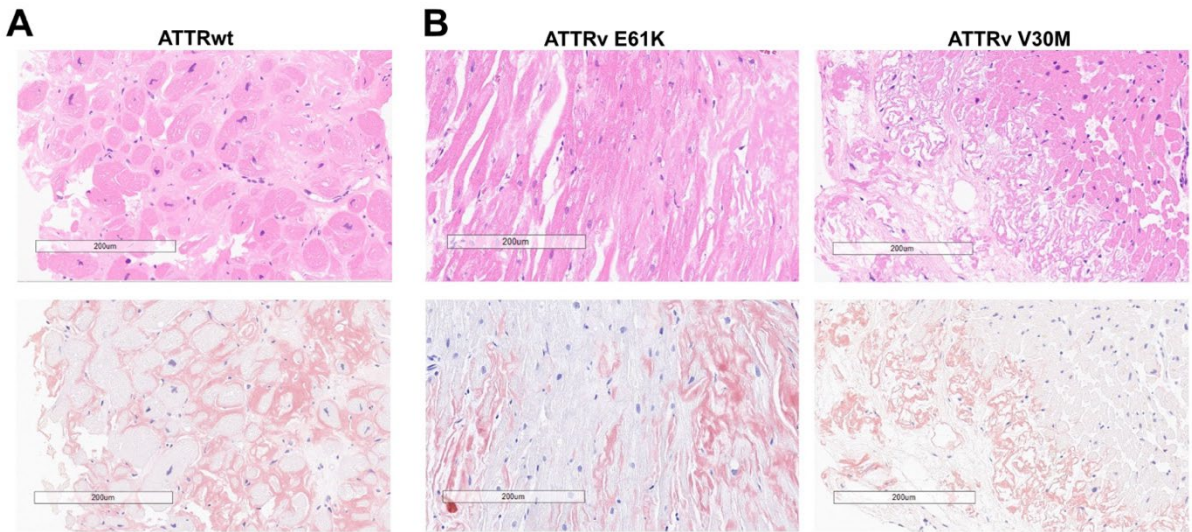*To whom correspondence should be addressed: Masataka Ikeda

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# Figure S1



**Figure S1** Images of hematoxylin/eosin (HE; upper panel) and Dylon (lower panel) staining in cases with wild-type transthyretin amyloidosis (ATTRwt) and variant transthyretin amyloidosis (ATTRv). (*A*) Images of HE and Dylon staining in cases with ATTRwt. (*B*) Images of HE and Dylon staining in cases with ATTRv, including the Lys61Glu (E61K) and Val30Met (V30M) variants.

# Figure S2
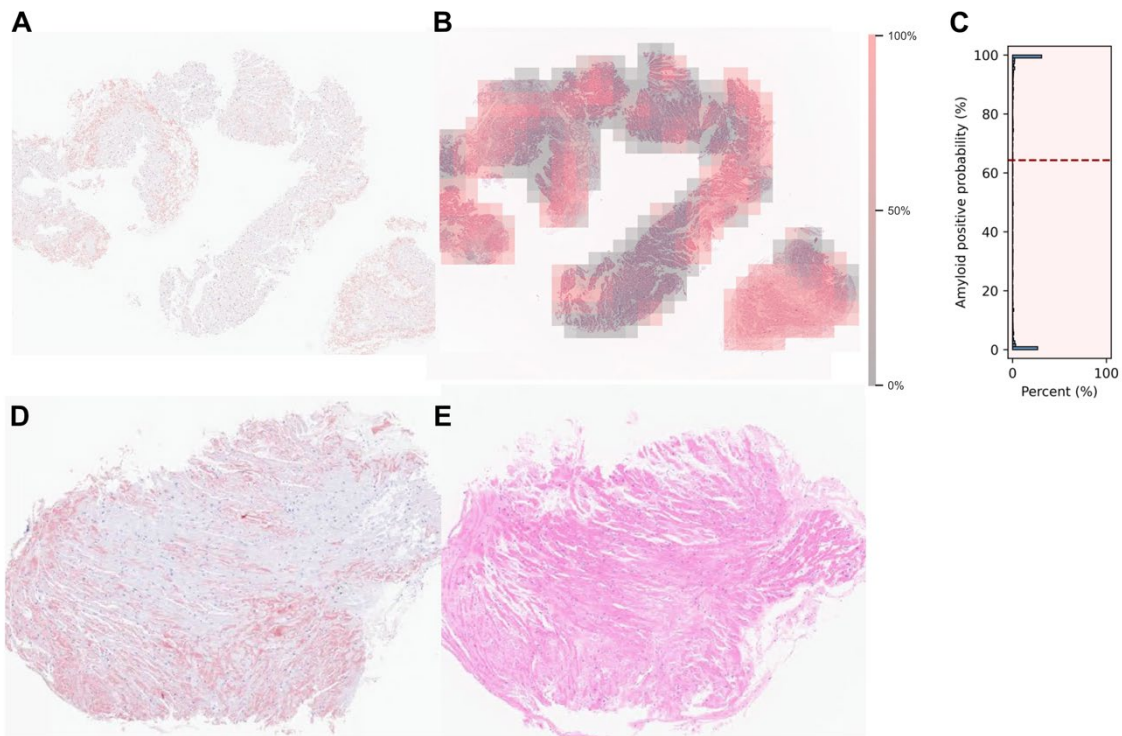


**Figure S2** Sets of Dylon staining (*A* and *D*), HE staining overlaid with the amyloid-positive area predicted by the model (*B*) and without overlay (E), and the distributions of amyloid-positive probabilities on a specimen basis (*C*). The set of *A*, *B*, and *C* is a case of variant transthyretin amyloidosis (ATTRv) with Val30Met (V30M), which was assigned to the test set for model development. The set of *C* and *D* is a case of ATTRv with Lys61Glu (E61K), which was assigned to the set for model evaluation; therefore, the Dylon (*D*) and HE staining images without overlay (*E*) are provided for reference. The distribution is described by histograms, and the median probability is indicated by a red-dotted line.

**Table S1**

| Case | Year of Dx | Age | Sex | Type | Indication of Bx | LVH | LVEF |
|------|-----------|-----|-----|------|------------------|-----|------|
| 1 | 2014 | 76 | F | AL | Heart failure Myocarditis susp. (post-recovery) | + | 61 |
| 2 | 2016 | 82 | M | ATTRwt | LV dysfunction | + | 36 |
| 3 | 2017 | 74 | M | ATTRwt | LV dysfunction CS susp. | + | 36 |
| 4 | 2017 | 82 | M | ATTRwt | Asynergy AS | + | 79 |
| 5 | 2018 | 88 | F | ATTRwt | Asynergy AS | + | 59 |
| 6 | 2019 | 89 | M | ATTRwt | LV dysfunction MR | − | 49 |
| 7 | 2019 | 81 | F | ATTRwt | LV dysfunction Heart failure | − | 41 |
| 8 | 2020 | 91 | M | ATTRwt | LV dysfunction Heart failure | − | 39 |
| 9 | 2020 | 71 | M | ATTRwt | LV dysfunction CS susp. | + | 41 |

**Table S1** Clinical information of 9 cases who had no suspicion of amyloidosis prior to biopsy.

Left ventricular hypertrophy (LVH) was defined as an average thickness of the interventricular septum (IVS) and left posterior ventricular wall (LVPW) of ≥ 11 mm or greater, or a left ventricular mass of ≥ 115 g/m$^2$ in men and ≥ 95 g/ m$^2$ in women. Dx, diagnosis; Bx, biopsy; LVEF, left ventricular ejection fraction; F, female; M, male; CS, cardiac sarcoidosis; AS, aortic stenosis; MR, mitral regurgitation.