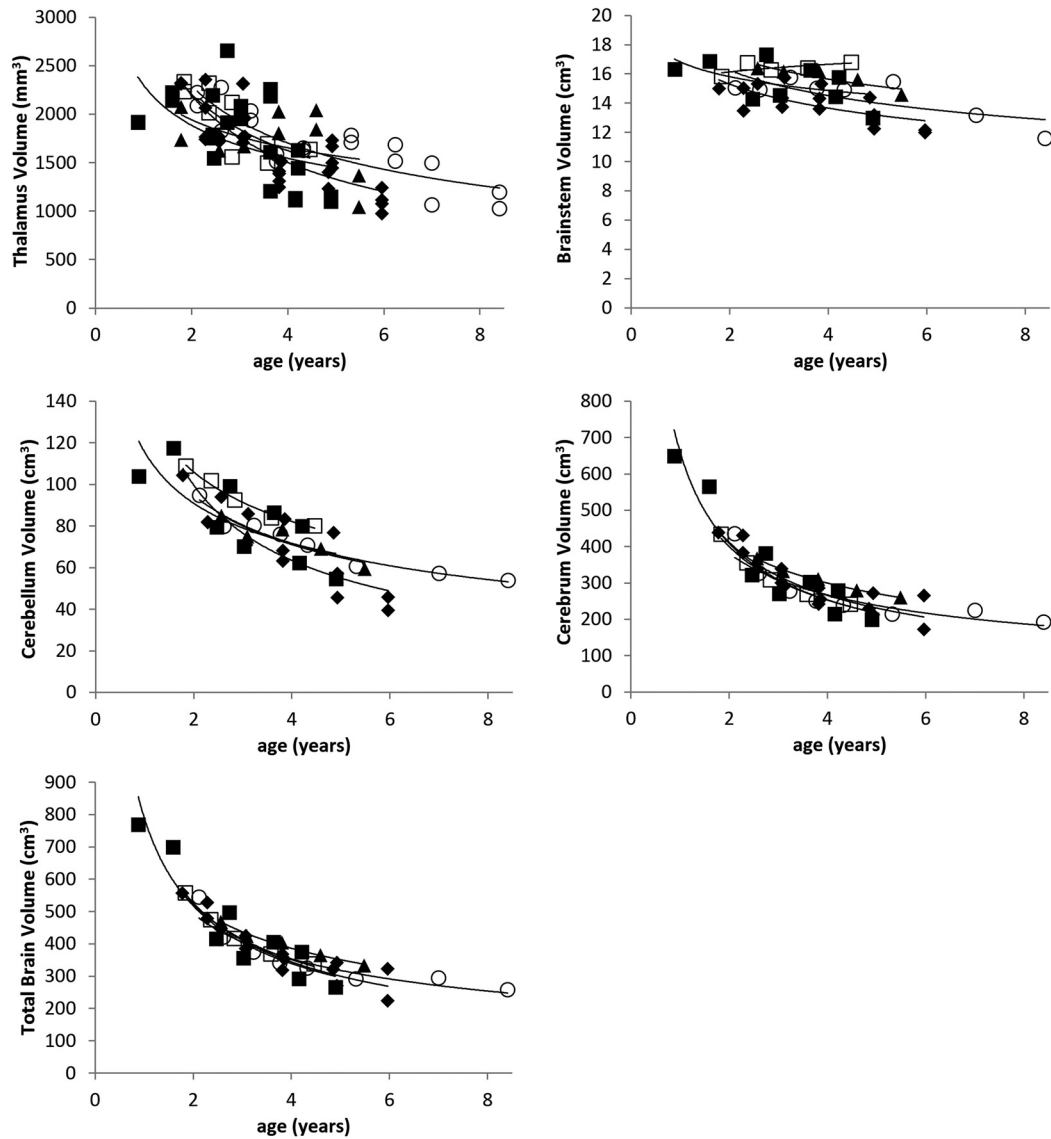


ON-LINE FIG 1. Instructions for making the thalamus measurements. In an axial image containing the anterior commissure and posterior commissure, draw line segment AB between the inferior margin of the foramen of Monro and the velum separating the occipital horn from the quadrigeminal plate cistern. Draw line segment CD perpendicular to AB so that one end is at the junction of the thalamus and posterior commissure and the other end is at the medial margin of the internal capsule. Choose the perpendicular (coronal) image that includes the posterior commissure; draw line segment EF parallel to the midline starting at the caudothalamic groove and ending at the medial margin of the internal capsule. The approximate volume is $(\pi/6)*AB*CD*EF$.



genotype	N	points	total volume	thalamus	brainstem	cerebellum	cerebrum
◆ C451T C451T	3	15	$y = 807.62x^{-0.615}$ $R^2 = 0.8552$	$y = 3213x^{-0.548}$ $R^2 = 0.6683$	$y = 17.13x^{-0.163}$ $R^2 = 0.4634$	$y = 156.58x^{-0.651}$ $R^2 = 0.7189$	$y = 638.09x^{-0.631}$ $R^2 = 0.8085$
■ C451T T29A	3	9	$y = 791.83x^{-0.611}$ $R^2 = 0.8591$	$y = 2300x^{-0.287}$ $R^2 = 0.2749$	$y = 16.819x^{-0.089}$ $R^2 = 0.2668$	$y = 115.64x^{-0.346}$ $R^2 = 0.5781$	$y = 660.55x^{-0.692}$ $R^2 = 0.8873$
▲ C451T 798+2T>C	1	5	$y = 703.29x^{-0.432}$ $R^2 = 0.9841$	$y = 2282x^{-0.232}$ $R^2 = 0.2082$	$y = 18.983x^{-0.14}$ $R^2 = 0.7796$	$y = 125.97x^{-0.412}$ $R^2 = 0.8391$	$y = 560.15x^{-0.451}$ $R^2 = 0.9956$
□ A364T A364T	1	5	$y = 775.7x^{-0.571}$ $R^2 = 0.9884$	$y = 2992x^{-0.441}$ $R^2 = 0.6754$	$y = 15.631x^{0.046}$ $R^2 = 0.4375$	$y = 136.75x^{-0.367}$ $R^2 = 0.983$	$y = 632.89x^{-0.661}$ $R^2 = 0.9885$
○ A169i A169i	1	8	$y = 686.16x^{-0.478}$ $R^2 = 0.9031$	$y = 3083x^{-0.428}$ $R^2 = 0.714$	$y = 18.172x^{-0.162}$ $R^2 = 0.5499$	$y = 125.22x^{-0.402}$ $R^2 = 0.9633$	$y = 542.7x^{-0.511}$ $R^2 = 0.8599$

ON-LINE FIG 2. Segmental and total brain volume, separated by genotype, for 9 of the 10 patients in the study. No difference between the genotypes was identified; therefore, the measurements for all genotypes were combined for further analysis. (Note: One patient with a genotype unique among this patient cohort [C451T, A364T] was imaged only once and did not return for follow-up; therefore, no curves could be fit for this genotype.)