

ON-LINE APPENDIX

Effect of Field Strength on the Delineation of CC_A

We compared the measure of CC_A in 15 patients who had both an MP-RAGE sequence at 3T and a fast echo-spoiled gradient-echo sequence at 1.5T in <1 year. The Bland-Altman plot (On-line Fig 1) shows that measures obtained at 3T were, of course, strongly related to those obtained at 1.5T, illustrating the robustness of the measure, but they were also approximately 6.5% larger than those obtained at 1.5T (the mean interval between both scans was 5 months, and 3T acquisition was performed before 1.5T acquisition in 40% of cases).

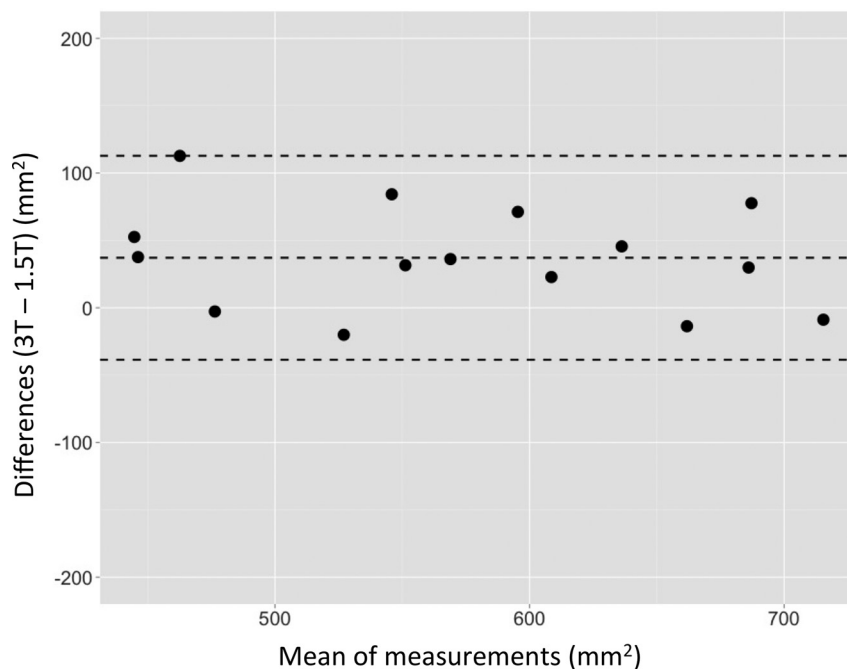
Corpus Callosum Area in Patients with CADASIL without Lacunes

Twenty-eight other patients without lacunes were selected from our national cohort to be sex- and age-matched to the participants

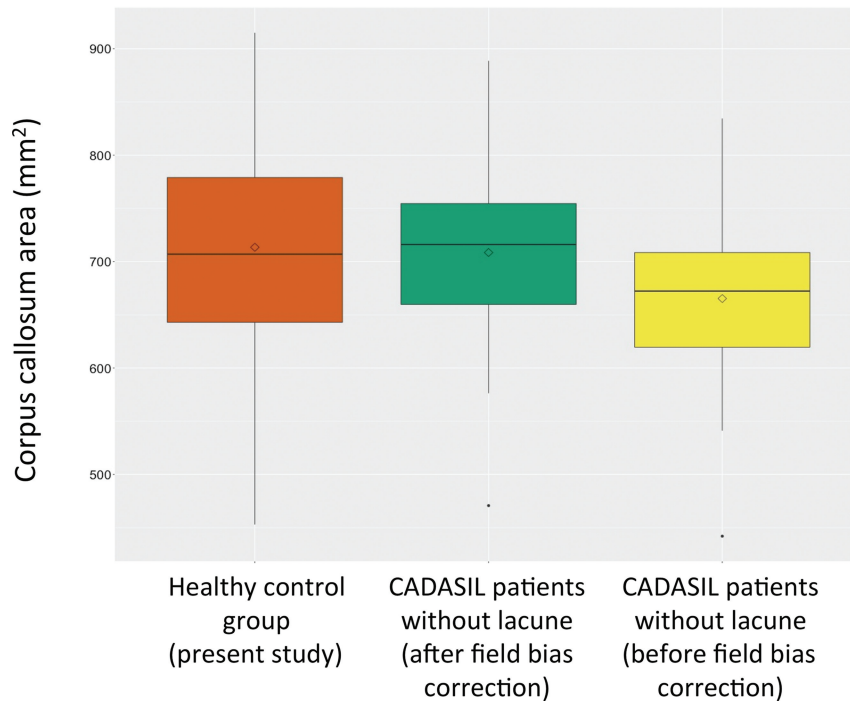
of the present study. There were 14 men and 14 women, and their mean age was 51.3 ± 9.9 years. Their mean CC_A was not significantly different from that of controls and was higher than that in patients with lacunes in the present study as can be observed in On-line Figs 2 and 3.

Automatic Quantification of Corpus Callosum Volume in Patients with CADASIL and Controls

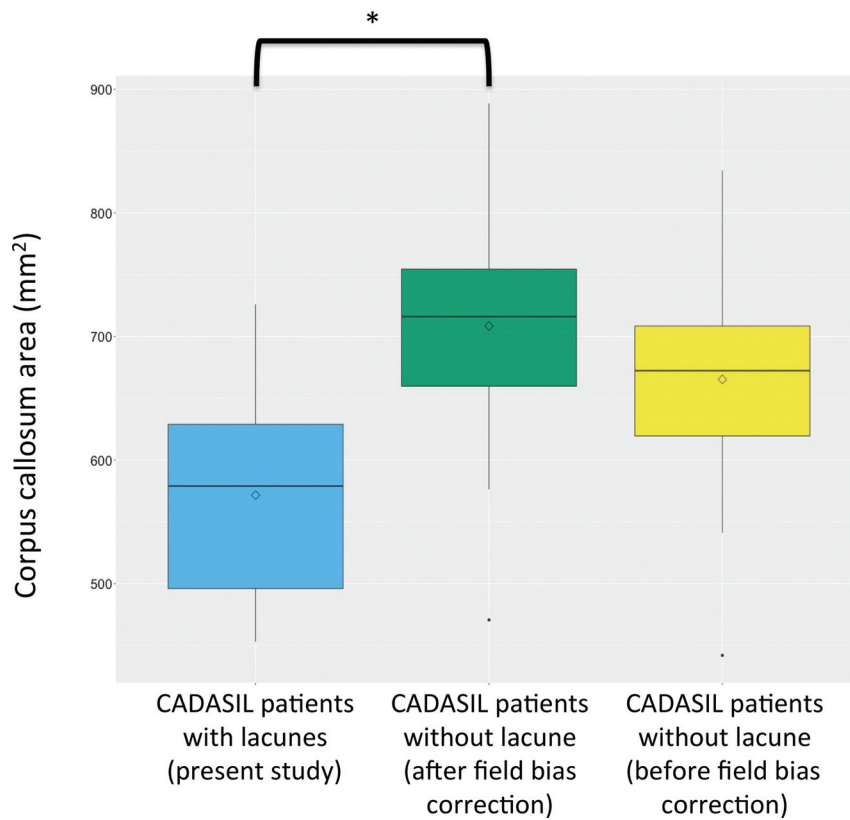
To further evaluate the interest and sensitivity of the 2D simple and robust measurement of the corpus callosum area, we assessed an automatic 3D volume of the corpus callosum with FreeSurfer (<http://surfer.nmr.mgh.harvard.edu>). As shown in On-line Fig 4, 3D computation also leads to strong differences between groups ($P = .0009$). There was a strong linear relationship ($P < .001$) between the normalized measure of CC_A used in our article and the volume obtained from automatic 3D segmentation (On-line Fig 5).



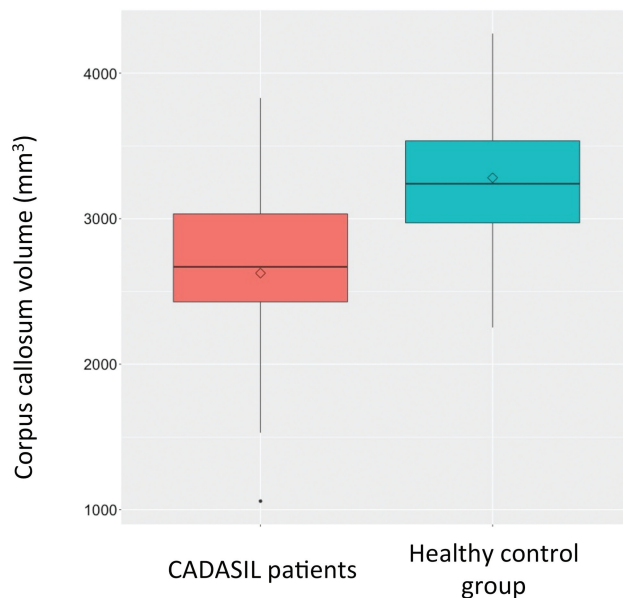
ON-LINE FIG 1. Bland-Altman analysis plot (mean difference and 95% limits of agreement) showing the reproducibility of the measure of the corpus callosum area.



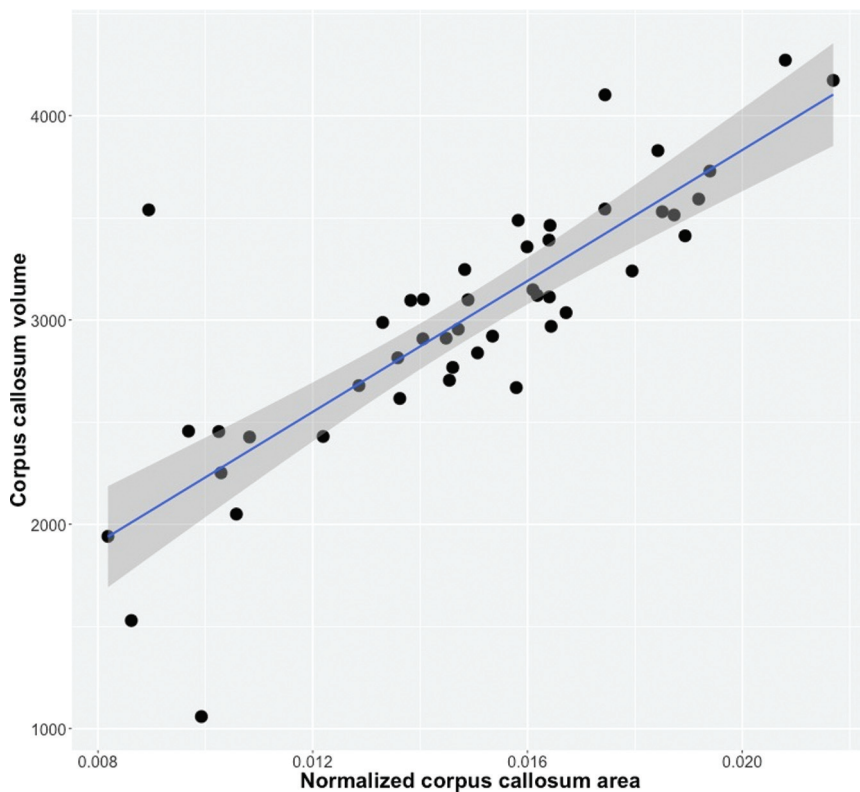
ON-LINE FIG 2. Control group of the present study (orange) versus patients with CADASIL without lacunes (green) versus patients with CADASIL without lacunes before correction for field strength (yellow).



ON-LINE FIG 3. Patients with CADASIL in the present study (blue) versus patients with CADASIL without lacunes (green) versus patients with CADASIL without lacunes before correction for field strength (yellow). The asterisk indicates $P < .01$ with the Wilcoxon test and the adjusted linear model for age and sex.



ON-LINE FIG 4. Comparison of the volume of the corpus callosum obtained from automatic segmentation in patients with CADASIL versus healthy controls.



ON-LINE FIG 5. Linear relationship between the normalized measure of the corpus callosum obtained from 2D manual segmentation and the volume of the corpus callosum derived from automatic 3D segmentation.