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Scientific Abstract

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An MRI Study Of Age And Sex Related Developmental Changes In Corpus Callosum.

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Objectives: We aimed to track the development of corpus callosum and explore the sex related and age related differences in various age groups.

Material and methods: A cross-sectional prospective study, in a sample of 100 healthy individuals, in a tertiary care hospital were segregated into subgroups – infants(0-2),children (2-10), adolescent (10-18), young adult (18-25),middle age adults (25-45),older adults (45-65) and old(65 and above).The size of CC was measured on midsagittal section in 59 males and 41 females. The cross-sectional area of seven segments of the CC– rostrum , genu , rostral body , anterior midbody , posterior midbody , isthmus and splenium were calculated and correlated with brain dimensions: AB (maximum longitudinal dimension), CD (maximum vertical dimension) and EZ(total longitudinal dimension of CC). Statistical analysis involved spearman correlations, Anova tests and Mann Whitney tests.

Results and conclusions: Various segments of CC showed significant effects of the age groups but not of gender. AB and CD tend to be smaller in women. The brain and CC both showed variation in size with age. Significant intersegmental correlation existed between brain and CC dimensions.

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