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Cerebral morphological and cognitive status in long-term period after CABG

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Purpose: The main purpose of this study was to estimate of brain morphological pattern and cognitive status changes and after CABG in long-term postoperative period.

Material & Methods: The study included 75 male patients (62.5±5.5y) with initial Beck scale is not more than 16, MMSE is not less than 24, FAB scale 11 points. Before and five years after, CABG patients were examined in STAI, MMSE, FAB scales and brain MDCT.

Results: Five years after CABG there was significant reduction in STAI (initial - 20.0 [17.0, 23.0], after - 22.0 [19.0, 27.0], $p<0.05$), the preservation of cognitive status on the MMSE (initial - 28 [27, 29], after - 27 [26; 28], $p<0.05$) and FAB (initial - 16 [14, 17], after - 17 [16, 17], $p<0.05$). Only two patients developed dementia. Third (III) ventricle width pre/after - 6.86±1.91 mm/8.45±2.18 mm, $p=0.001$, ventricular cranial index Evans – 29%/31%; the presence of leukoaraiosis was detected in 18 (31.03%) patients/44 (66.67%), $p=0.001$, cysts and gliosis were found in 2 (3.45%) patients/24 (36.36%), $p=0.0001$.

Conclusion: During five years after CABG, the majority of patients revealed the worsening in the cerebral morphological structure in the form of enlargement of its ventricular system, increase in the number of patients with leukoaraiosis, cysts and gliosis areas. These structural changes in the brain on MDCT indicate a progression of chronic cerebral ischemia in the long-term postoperative period, despite the preservation of cognitive status in screening neuropsychological testing.

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