Bio-PTS (Biomarker discovery for Post Traumatic Syndrome) Research Group

Major research goals

Traumatic physical injury affects millions of people each year and it is a leading cause of posttraumatic syndrome (PTS) including depression, anxiety disorders, and posttraumatic stress disorder (PTSD), which are associated with poor outcome of physical health. Our study aims to develop a biomarker-based diagnostic algorithm for PTS after physical injury the government support (National Research Foundation).

Major research topics

- Examine potential biomarkers of various PTS symptoms including depression, anxiety and PTSD and their multiple interactive effects
- Estimate the diagnostic and predictive validities of biomarkers for early detection of PTS
- Develop a biomarker-based diagnostic algorithm for PTS after physical injury.

Major achievements

1. Interactive effect of stressful life events and 5-HTTLPR s alleles with stressful life events as biomarker for depression in patients with acute coronary syndrome (ACS) at acute phase (within 2 weeks) while interactive effect of social support deficits and 5-HTTLPR s alleles as biomarker for depression in patients with ACS at chronic phase (at 1 year)
2. Hyperhomocysteinemia irrespective of MTHFR genotype as a biomarker for depression in ACS patients at acute phase (within 2 weeks) while hyperhomocysteinemia only in the presence of MTHFR TT genotypes as biomarker for depression in ACS patients at chronic phase (at 1 year)
3. Higher IL-1b, IL-1b – 511 T allele and interactive effect of higher IL-b level and IL-1b – 511 T allele
as biomarker for depression in ACS patients at acute phase (within 2 weeks)

Representative figures of major achievements

Depressive status by hyperhomocysteinemia and methylenetetrahydrofolate reductase (MTHFR) genotype.

Major relevant publications