**S1 Table. Parameter estimates (log) and empirical standard error estimates with time and antidepressant use entered as covariates for four GEE models predicting MADRS depressive scores post-fracture.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gene Predicting Depressive Scores | | Estimate | SE | Z | p |
| *BDNF* Val66Met | Intercept | 1.67 | 0.06 | 29.98 | <.001 |
| (n = 424) | Time BL – Week 4 | -0.58 | 0.07 | -8.59 | <.001 |
|  | Antidepressant use | 0.24 | 0.09 | 2.80 | .005 |
|  | Met/Met – Val/Val | 0.38 | 0.16 | 2.41 | .016 |
|  | Val/Met – Val/Val | 0.01 | 0.08 | 0.16 | .874 |
| 5HTTLPR-rs25531 | Intercept | 1.84 | 0.07 | 25.77 | <.001 |
| (n = 429) | Time BL – Week 4 | -0.58 | 0.07 | -8.65 | <.001 |
|  | Antidepressant use | 0.23 | 0.09 | 2.73 | .006 |
|  | S′/S′ – LA/LA | -0.23 | 0.09 | -2.46 | .014 |
|  | LA/S′ – LA/LA | -0.20 | 0.08 | -2.39 | .017 |
| 5HT1a C(-1019)G | Intercept | 1.58 | 0.07 | 21.52 | <.001 |
| (n = 419) | Time BL – Week 4 | -0.58 | 0.07 | -8.76 | <.001 |
|  | Antidepressant use | 0.24 | 0.09 | 2.82 | .005 |
|  | GG – CC | 0.10 | 0.09 | 1.09 | .274 |
|  | CG – CC | 0.14 | 0.09 | 1.70 | .090 |
| *BDNF* Val66Met x | Intercept | 1.74 | 0.09 | 19.93 | <.001 |
| 5HTTLPR-rs25531 | Time BL – Week 4 | -0.58 | 0.07 | -8.56 | <.001 |
| (n = 423) | Antidepressant use | 0.23 | 0.09 | 2.67 | .008 |
|  | Met/Met – Val/Val | 0.61 | 0.13 | 4.63 | <.001 |
|  | Val/Met – Val/Val | 0.20 | 0.13 | 1.54 | .123 |
|  | S′/S′ – LA/LA | -0.12 | 0.12 | -1.01 | .311 |
|  | LA/S′ – LA/LA | -0.10 | 0.10 | -0.97 | .331 |
|  | Estimate 1a | -0.77 | 0.31 | -2.47 | .014e |
|  | Estimate 2b | -0.15 | 0.32 | -0.47 | .640 |
|  | Estimate 3c | -0.23 | 0.21 | -1.09 | .276 |
|  | Estimate 4d | -0.28 | 0.19 | -1.46 | .143 |

Abbreviations: 5HT1a, Serotonin 1A receptor; 5-HTTLPR, serotonin transporter gene-linked polymorphic region; *BDNF*, brain-derived neurotrophic factor; BL, baseline; GEE, generalized estimating equation; MADRS, Montgomery-Asberg Depression Rating Scale.

The estimated intercept (log) for each of the models refers to MADRS depressive scores for persons not on antidepressants and carriers of the reference (common homozygote) genotype. For example, irrespective of *BDNF* genotype, the intercept for all participants with hip fracture was 1.67 and relative to Val/Val carriers, Met/Met carriers had 0.38 units higher MADRS scores. The interaction estimates are interpreted as follows:

aThe difference between Met/Met carriers and Val/Val carriers within LA/LA minus the difference between Met/Met carriers and Val/Val carriers within S′/S′.

bThe difference between Met/Met carriers and Val/Val carriers within LA/LA minus the difference between Met/Met carriers and Val/Val carriers within LA/S′.

cThe difference between Val/Met carriers and Val/Val carriers within LA/LA minus the difference between Val/Met carriers and Val/Val carriers within S′/S′.

dThe difference between Val/Met carriers and Val/Val carriers within LA/LA minus the difference between Val/Met carriers and Val/Val carriers within LA/S′.

eContrast results for GEE analysis of the interaction indicate a significant difference between Met/Met and Val/Val carriers within LA/LA only (*χ*2 = 4.33(1), *P* = .038).