Alteration plasma levels of pro-inflammatory cytokines in patients with major depressive disorder: a comparative study about 110 cases

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INTRODUCTION
Growing evidence affirmed that inflammatory mediators may play a critical role in the pathophysiology of psychiatric disorders, particularly in major depressive disorder (MDD) and suicidal behavior. Furthermore, elevated levels of some pro-inflammatory cytokines have been correlated with the severity of depression and suicidality.

OBJECTIVE
Measure and compare cytokines plasma interleukin-2 (IL-2) and interleukin-6 (IL-6) between MDD patients and controls.

PARTICIPANTS AND METHODS

- Participants recruited in the Psychiatry and Emergency Departments of Monastir University Hospital, Tunisia.
- Participants have been divided in three groups (Table 1):
  - 35 healthy controls;
  - 65 MDD patients who never attempted suicide;
  - 45 MDD patients who had at least one suicide attempt
- Assessment
  - IL-2 and IL-6 analysed using the Enzym Linked Immunosorbent Assay (ELISA)
  - Severity of depression evaluated using the Hamilton Depression Scale (HAM-D-17)
  - Suicidal behaviour : assessed by the Beck Scale for Suicide Ideation (SSI).

RESULTS AND DISCUSSION

- Plasma levels of IL-2 were significantly higher in suicidal MDD patients than in control subjects (p<0.05) (figure 1). Similar result to Kim et al (2007) [1]. No significant difference between suicidal and non-suicidal patients (p=0.419).
- Plasma levels of IL-6 were significantly higher in MDD patients than in control subjects (p<0.05) (figure 1). Similar result to Dowlati et al [2]. No significant difference between suicidal and non-suicidal patients (p=0.536).
- No correlations between clinical scores (HAM-D-17 and SSI ) and cytokines plasma levels.

CONCLUSION
Elevated plasma levels of IL-2 and IL-6 were significantly correlated with Major Depressive Disorder but not with severity. These findings have important implications for our understanding of the pathophysiology and treatment of major depressive disorders. Future studies with larger arrays of cytokine profiles and larger samples may provide more sensitive and specific modes of diagnostics in determining MDD etiology.

REFERENCES

There is no potential conflict of interest