Chapter: 7

SUMMARY

- In the present study correlation between antioxidant levels and autonomic dysfunction in male depressive cases was studied.
- It included 83 depression cases whereas 100 normal individuals without any psychiatric disorders were treated as control.
- Cases and control were divided into three categories according to their age. The diagnosis of psychiatric cases was done by psychiatrist.
- Physiological parasympathetic parameters studied were resting heart rate, heart rate response to deep breathing (E:I ratio), immediate heart rate response to standing (30:15) ratio and heart rate response to valsalva maneuver whereas sympathetic parameters studied were blood pressure response to sustained handgrip test(HGT), and blood pressure response to standing: orthostatic hypotension(OHT).
- Biochemical markers included enzymatic antioxidants superoxide dismutase, glutathione peroxidase and catalase and non-enzymatic antioxidants like vitamin-E and vitamin-C. Additionally oxidative stress marker such malonyldialdehyde (MDA) was also studied.
- Significant difference between the mean values of weight in category II and category III of control and depression cases of age group of 31-40 years and 41-55 years was observed for control and depression cases.
- The mean values of superoxide dismutase, glutathione peroxidase and catalase in control subjects and depression cases were significantly altered.
- The non-enzymatic antioxidants like vitamin-E and vitamin-C were found to be decreased in depression cases whereas oxidative marker malonyldialdehyde was seen increased in depression cases.
- The resting heart rate/min was significantly increased in depression cases as compared to control. There was decreased in parasympathetic functions like heart rate response to deep breathing, (E:I ratio), Immediate heart rate response to standing (30:15 ratio) and heart rate response to valsalva ratio.
- The sympathetic functions like sustained hand grip test (HGT) was found to be increased in depression cases whereas orthostatic hypotension (OHT) was found to be decreased in depression.
Summary

- Statistical significant correlation observed between antioxidants like superoxide dismutase, vitamin-E and malonyldialdehyde with resting heart rate of control group whereas in depression cases glutathione peroxidase, serum catalase and vitamin C showed no correlation with resting heart rate.

- Statistically significant correlation observed between antioxidants like superoxide dismutase and heart rate response to deep breathing (E: I ratio) in control subjects whereas there was no correlation observed in other parameters of control and depression cases.

- Statistical significant correlation observed between antioxidants like superoxide dismutase, glutathione peroxide dismutase, serum catalase, vitamin-E and vitamin-C and Immediate heart rate response to standing (30:15 ratio) in control and depression cases.

- There was no statistical significant correlation observed between antioxidants like superoxide dismutase, glutathione peroxide dismutase, serum catalase, vitamin-E and vitamin-C and Immediate heart rate response to standing (30:15 ratio) in control and depression cases.

- A statistical significant correlation is noted between antioxidants like superoxide dismutase and valsalva ratio in depression cases whereas other parameters showed no statistical significance with valsalva ratio in both control and depression cases.

- There was no statistical significant correlation observed between antioxidants like superoxide dismutase, glutathione peroxide dismutase, serum catalase, vitamin-E, vitamin-C and malonyldialdehyde with diastolic blood pressure in control and depression cases.

- Correlation was observed between antioxidants like vitamin-C and systolic blood pressure in depression cases whereas other antioxidants like superoxide dismutase, glutathione peroxide dismutase, serum catalase, vitamin-E and malonyldialdehyde showed no significant correlation with systolic blood pressure in control and depression cases.

- Vitamin-C and malonyldialdehyde showed significant association with depression cases whereas other antioxidants like superoxide dismutase, glutathione peroxide, serum catalase, and vitamin-E showed no significant association.

- Among various autonomic functions a significant association was observed for diastolic blood pressure and autonomic functions whereas for other autonomic functions it was unaltered.