5. Conclusion

The mechanism of Cisplatin side effects are documented to the combination of multi-ways, such as generation of ROS in different organs. Decreased activity of antioxidant enzymes, create a great oxidative stress, which leads to sever cellular damage. In the last decade a number of studies have focused on the protective potency of natural antioxidants against side effects induced by chemotropic agents such as Cisplatin.

Indian ayurveda is one of the most important and wildly accepted branches of natural medicinal science. In ayurveda extracts from FR and FB are playing an important role in the prevention of a variety of disease.

In the first part of our thesis we studied the phytochemical profiles of extracts obtained from FR and FB Linn, leaf. It is observed that the leaf extracts of FR and FB are rich sources of phytochemicals such as polyphenols and it found to have a high potential to scavenging of ROS. Therefore these extracts could be the potent antioxidative agents against oxidative stress induced by Cisplatin.
In the current study, Cisplatin impaired the enzymatic antioxidants in the different organs of mice. Furthermore, the increased level of toxicity markers was observed after Cisplatin injection in normal mice. This indicates the development of side effects of Cisplatin in the different organs (Brain, liver and kidneys).

In the present study normal mice which were exposed to Cisplatin toxicity, treated by different leaf extracts of FR and FB (aqueous, methanolic and ethanolic). It was observed that the pre and post treatment of FR and FB are potent to prevent the toxicity caused by Cisplatin.

This study suggested the protective potential of FR and FB, by improving the antioxidant status of different organs against oxidative stress induced by Cisplatin. This protective effect of FR and FB was evidenced by the ability of these extracts to increase the reduced level of intracellular enzymes in selected organs. However, in the some cases the protective effect of extracts was dose dependent and the methanol and ethanolic extracts showed the higher protective activity compared to aqueous extracts.

In the current study Cisplatin induced side effects in different organs (brain, liver and kidneys) by inducing lipid per-oxidation and also impairment of antioxidant defense systems. However, the results of this study, suggested that the pre and post treatment of FR and FB during the chemotherapy period may play a notable protective role against side effects induced by Cisplatin.