



SUMMARY & CONCLUSIONS

*Life is like a piano –
What you get out of it,
Depends on how you play it !!!*

- Tom Lehrer



7.0

In summary, our data suggests that treatment with **spironolactone**,

- ➔ did not produce a significant change in serum glucose and insulin levels in type1 and type 2 diabetic rats.
- ➔ significantly reduced the elevated cholesterol, LDL-cholesterol, VLDL – cholesterol and triglycerides levels and significantly elevated the reduced HDL-cholesterol levels in diabetic as well as the iso-hypertrophic rats.
- ➔ significantly reduced the elevated creatinine levels in type 1 and type 2 diabetic rats
- ➔ did not produce a significant reduction of LDH and CK levels in the type 1 diabetic animals but in type 2 diabetic rats as well as in iso-hypertrophic rats, it produced a significant reduction of CK levels but did not alter significantly the LDH levels.
- ➔ significantly reduced the elevated CRP levels in diabetic as well as the iso-hypertrophic rats.
- ➔ significantly controlled blood pressure and heart rate in type1, type 2 diabetic and iso-hypertrophic rats.
- ➔ significantly reduced cardiac hypertrophy index, left ventricular hypertrophic index and collagen levels in type1, type 2 diabetic and iso-hypertrophic rats.
- ➔ significantly improved the anti-oxidant levels in type 2 diabetic and iso-hypertrophic rats.



Treatment with **telmisartan and combination of spironolactone with telmisartan,**

- ➔ produced a significant improvement in serum glucose and insulin levels in type1 and type 2 diabetic rats.
- ➔ significantly reduced the elevated cholesterol, LDL-cholesterol, VLDL – cholesterol and triglycerides levels and significantly elevated the reduced HDL-cholesterol levels in diabetic as well as the iso-hypertrophic rats
- ➔ significantly reduced the elevated creatinine levels in type 1 and type 2 diabetic rats
- ➔ significantly reduced the elevated LDH, CK and CRP levels in diabetic as well as the iso-hypertrophic rats
- ➔ significantly controlled blood pressure and heart rate in type1, type 2 diabetic and iso-hypertrophic rats.
- ➔ significantly reduced cardiac hypertrophy index, left ventricular hypertrophic index and collagen levels in type1, type 2 diabetic and iso-hypertrophic rats.
- ➔ significantly improved the anti-oxidant levels in type 2 diabetic and iso-hypertrophic rats.

In conclusion, our data suggests that spironolactone, telmisartan or their combination prevents not only the STZ induced metabolic abnormalities but also cardiovascular complications as evident from the reduction in cholesterol, triglyceride, LDH, CK, CRP, collagens levels, decrease in cardiac hypertrophy and left ventricular hypertrophy which are the initial symptoms of congestive heart failure. Although, the combination of spironolactone with telmisartan did not show more beneficial effects when compared to monotherapy, it may be considered beneficial for long term administration when the angiotensin receptor blocker monotherapy



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leads to aldosterone breakthrough. However, long term studies are required to confirm and compare the beneficial effect of the combination therapy over monotherapy.