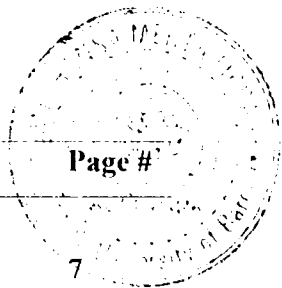


List of figures and tables:



Figures	Title	Page #
	Chapter I	
1	Hypothalamus - an overview	7
2	GnRH peptide - structure	9
3	GnRH signal transduction	14
4	Pituitary – an overview	17
5	Regulation of LH and FSH	22
6	Gonadotropin signal transduction	26
7	Biotransformation of steroids	32
8	Leptin and reproduction	38
9	Metals and Zinc Finger Proteins	85
10	Metal induced DNA damage	88

Tables	Title	Page #
	Chapter I	
1	Human exposure to various lead sources	48
2	Limit values for lead	52
3	LOAELs for lead induced nervous effects	53
4	LOAELs for lead induced hematological effects	53
5	LOAELs for lead induced renal effects	56
6	Human exposure to various cadmium sources	60
7	LOAELs for cadmium induced health effects	65
8	Limit values for cadmium in air and water	65

Figures	Title	Page #
	Chapter III	
1	Dose dependent effect of lead and cadmium alone and in combination on hypothalamic 3 α -hydroxy steroid dehydrogenase activity.	135
2	Dose dependent effect of lead and cadmium alone and in	135

	combination on pituitary 3 α -hydroxy steroid dehydrogenase activity.	
3	Dose dependent effect of lead and cadmium alone and in combination on hepatic 17 β -hydroxy steroid oxidoreductase activity.	136
4	Dose dependent effect of lead and cadmium alone and in combination on hepatic UDPG Transferase activity.	136
5 A to G	Histological section of liver exposed to lead and cadmium alone and in combination (X 40)	138
6	Time dependent effect of lead and cadmium alone and in combination on hypothalamic 3 α -hydroxy steroid dehydrogenase activity.	141
7	Time dependent effect of lead and cadmium alone and in combination on pituitary 3 α -hydroxy steroid dehydrogenase activity.	141
8	Time dependent effect of lead and cadmium alone and in combination on hepatic 17 β -hydroxy steroid oxidoreductase activity.	145
9	Time dependent effect of lead and cadmium alone and in combination on hepatic UDPG Transferase activity.	145
10 a to d	Time dependent effect of lead and cadmium either alone or in combination on Zn level in hepatic metallothionein fraction	147-148
11	Effect of lead and cadmium alone and in combination on hepatic 17 β -hydroxy steroid oxidoreductase activity (<i>in vitro</i> study)- role of GSH.	154

Tables	Title	Page #
	Chapter III	
1	Dose dependent effect of lead and cadmium alone and in	134

	combination on body weight.	
2	Dose dependent effect of lead and cadmium alone and in combination on hepatic lead and cadmium content.	134
3	Dose dependent effect of lead and cadmium alone and in combination on lead and cadmium levels in blood.	139
4	Effect of lead and cadmium alone and in combination on hepatic acid phosphatase activity and cytochrome P450 content.	139
5	Dose dependent effect of lead and cadmium alone and in combination on safety parameters.	141
6	Effect of lead and cadmium alone and combination on hepatic DNA, RNA and microsomal cholesterol.	141
7	Time dependent effect of lead and cadmium alone and in combination on body weight.	142
8	Time dependent effect of lead and cadmium alone and combination on hepatic cytochrome P450 content	142
9	Time dependent effect of lead and cadmium alone and combination on hepatic lead and cadmium content	146
10	Time dependent effect of lead and cadmium alone and combination on lead and cadmium levels in blood	146
11	Time dependent effect of lead and cadmium alone and in combination on safety parameters.	149

Figures	Title	Page #
	Chapter IV	
1	Effect of lead and cadmium alone and in combination on hypothalamic serotonin, dopamine and norepinephrine content.	161
2	Effect of lead and cadmium alone and in combination on serum and pituitary LH levels.	161
3	Effect of lead and cadmium alone and in combination on	162

serum and pituitary FSH levels.

Tables	Title	Page #
	Chapter IV	
1	Lead and cadmium levels at the hypothalamus and pituitary of female rats exposed to lead and cadmium alone and in combination for 15 days.	163

Figures	Title	Page #
	Chapter V	
1	Effect of lead and cadmium alone and in combination on hypothalamic serotonin, dopamine and norepinephrine content in pregnant animals.	175
2	Effect of lead and cadmium alone and in combination on hypothalamic serotonin, dopamine and norepinephrine content in lactating animals.	175
3	Effect of lead and cadmium alone and in combination on hypothalamic 3 α -hydroxy steroid dehydrogenase activity in pregnant and lactating animals.	176
4	Effect of lead and cadmium alone and in combination on pituitary 3 α -hydroxy steroid dehydrogenase activity in pregnant and lactating animals.	176
5	Effect of lead and cadmium alone and in combination on hepatic 17 β -hydroxy steroid oxidoreductase activity in pregnant and lactating animals.	177
6	Effect of lead and cadmium alone and in combination on hepatic UDPG Transferase activity in pregnant and lactating animals.	177

7	Effect of lead and cadmium alone and in combination on hepatic 17 β -hydroxy steroid oxidoreductase activity in fetus and neonatal animals.	180
8	Effect of lead and cadmium alone and in combination on hepatic UDPG Transferase activity in fetus and neonatal animals.	180
9a	Effect of lead and cadmium either alone or in combination on Zn level in hepatic metallothionein fraction from pregnant animals.	181
9b	Effect of lead and cadmium either alone or in combination on Zn level in hepatic metallothionein fraction from lactating animals.	181

Tables	Title	Page #
	Chapter V	
1	Number of successful pregnancies and their occurrence in the different exposure groups.	172
2	Maternal, fetal and neonatal weights, litter sizes, relative liver weights in control rats and in rats exposed to lead/and cadmium	172
3	Effect of lead and cadmium either alone or in combination on hepatic lead, cadmium and zinc levels (ug/g) in pregnant and lactating animals.	173
4	Effect of lead and cadmium either alone or in combination on hepatic lead, cadmium and zinc levels (ug/g) in fetus and neonatal animals.	173

5	Effect of lead and cadmium either alone or in combination on lead and cadmium levels in blood, hypothalamus and pituitary of pregnant animals.	178
6	Effect of lead and cadmium either alone or in combination on hepatic cytochrome P450 content in pregnant and lactating animals.	178
7	Effect of lead and cadmium either alone or in combination on hepatic DNA, RNA and glycogen content in neonatal and lactating animals.	182

Figures	Title	Page #
	Chapter VI	
1	TBARS levels in hepatic post-mitochondria fraction in the presence of lead and cadmium either lone or in combination: the role of Vitamin E.	197
2	CuZnSOD activity in hepatic post-mitochondria fraction in the presence of lead and cadmium either lone or in combination: the role of Vitamin E.	197
3	Catalase activity in hepatic post-mitochondria fraction in the presence of lead and cadmium either lone or in combination: the role of Vitamin E.	198
4	TBARS levels in hepatic mitochondria fraction in the presence of lead and cadmium either lone or in combination: the role of Mn^{2+} .	199
5	Superoxide dismutase activity in hepatic mitochondria fraction in the presence of lead and cadmium either lone or in combination: the role of Mn^{2+} .	199

Tables	Title	Page #
	Chapter VI	
1	Hepatic and pituitary GSH and TBARS levels of female rats exposed to lead acetate and cadmium acetate alone and in combination.	194
2	Hepatic and pituitary catalase and superoxide dismutase activities of female rats exposed to lead and cadmium alone and in combination.	194
3	Effect of lead and cadmium alone and in combination on pituitary membrane.	196