

# **CHAPTER IX**

## **APPENDIX**

## APPENDIX

**Table. A. 1: % of LDH activity increases or decreases in comparison to Control**

| Groups<br>Organs       | DAL, 10 <sup>th</sup><br>Day | DAL, 20 <sup>th</sup><br>Day | DAL + BRH <sub>2</sub><br>20 <sup>th</sup> Day | DAL + BRH <sub>2</sub><br>35 <sup>th</sup> Day |
|------------------------|------------------------------|------------------------------|--|--|
| <b>LIVER</b>           | 18.8                         | 31.4                         | - 67.33  | - 71.68  |
| <b>SPLEEN</b>          | 2.4                          | 5.0                          | - 45.56  | - 61.37  |
| <b>KIDNEY</b>          | 40.9                         | 56.2                         | - 54.6   | - 55.7   |
| <b>BONE<br/>MARROW</b> | 1.6                          | 4.3                          | 1.7  | - 17.6   |

**Table: A. 2: Differences between means of LDH activity of liver of different groups of mice.**

**CD (P < 0.05) = 2.081; CD (P < 0.01) = 2.842**

| Animal<br>Group | B       | C       | D        | E        |
|-----------------|---------|---------|----------|----------|
| <b>A</b>        | 4.44 ** | 7.43 ** | 15.93 ** | 16.96**  |
| <b>B</b>        |         | 2.99 ** | 20.37 ** | 21.4**   |
| <b>C</b>        |         |         | 23.36 ** | 24.39 ** |
| <b>D</b>        |         |         |          | 1.03     |

**Table: A. 3: Differences between means of LDH activity of spleen of different groups of mice.**

CD (P < 0.05) = 1.093; CD (P < 0.01) = 1.478

| Animal Group | B    | C    | D       | E       |
|--------------|------|------|---------|---------|
| A            | 0.34 | 0.71 | 6.51 ** | 8.77 ** |
| B            |      | 0.37 | 6.85 ** | 9.11 ** |
| C            |      |      | 7.22 ** | 9.48 ** |
| D            |      |      |         | 2.26 ** |

**Table: A. 4: Differences between means of LDH activity of kidney of different groups of mice.**

CD (P < 0.05) = 1.34; CD (P < 0.01) = 1.81

| Animal Group | B       | C       | D        | E        |
|--------------|---------|---------|----------|----------|
| A            | 5.88 ** | 8.07 ** | 7.84 **  | 8.01 **  |
| B            |         | 2.19 ** | 13.72 ** | 13.89 ** |
| C            |         |         | 15.91 ** | 16.08 ** |
| D            |         |         |          | 0.17     |

**Table. A. 5: Differences between means of LDH activity of bone marrow of different groups of mice.**

CD (P < 0.05) = 0.78; CD (P < 0.01) = 1.057

| Animal Group | B    | C    | D    | E       |
|--------------|------|------|------|---------|
| A            | 0.13 | 0.36 | 0.14 | 1.47 ** |
| B            |      | 0.23 | 0.01 | 1.6 **  |
| C            |      |      | 0.22 | 1.83 ** |
| D            |      |      |      | 1.61 ** |

\* P < 0.05; \*\* P < 0.01

**Table: A. 6: Cu / Zn ratios in Liver, Spleen, Kidney and Bone marrow of control and different treated groups of Mice.**

**Figures in parentheses represent percent (%) increase (+) or decrease (-) in Cu / Zn ratios.**

| Groups<br>Organs | Control | DAL implanted<br>on 10th day | DAL implanted<br>on 20th day | DAL+ BRH <sub>2</sub><br>on 20th day | DAL+ BRH <sub>2</sub><br>on 35th day |
|------------------|---------|------------------------------|------------------------------|--------------------------------------|--------------------------------------|
|                  | (A)     | (B)                          | (C)                          | (D)                                  | (E)                                  |
| Liver            | 0.13    | 0.05<br>(-61)                | 0.03<br>(-77)                | 0.13                                 | 0.11<br>(-15)                        |
| Spleen           | 0.11    | 0.03<br>(-72)                | 0.03<br>(-72)                | 0.18<br>(+ 63)                       | 0.12<br>(+ 9)                        |
| Kidney           | 0.08    | 0.06<br>(- 25)               | 0.04<br>(-50)                | 0.07<br>(-12)                        | 0.19<br>(+ 137)                      |
| Bone<br>marrow   | 0.1     | 0.11<br>(+ 10)               | 0.07<br>(-30)                | 0.12<br>(+ 20)                       | 0.13<br>(+ 30)                       |

**Table: A. 7: Cu / Se ratios in Liver, Spleen, Kidney and Bone marrow of control and different treated groups of Mice.**

**Figures in parentheses represent percent (%) increase (+) or decrease (-) in Cu / Se ratios.**

| Groups<br>Organs | Control | DAL implanted<br>on 10th day | DAL implanted<br>on 20th day | DAL+ BRH <sub>2</sub><br>on 20th day | DAL+ BRH <sub>2</sub><br>on 35th day |
|------------------|---------|------------------------------|------------------------------|--------------------------------------|--------------------------------------|
|                  | (A)     | (B)                          | (C)                          | (D)                                  | (E)                                  |
| Liver            | 0.33    | 0.21<br>(-36)                | 0.23<br>(- 30)               | 0.16<br>(- 51)                       | 0.09<br>(-72)                        |
| Spleen           | 0.08    | 0.08                         | 0.14<br>(+75)                | 0.11<br>(+ 37)                       | 0.06<br>(-25)                        |
| Kidney           | 0.14    | 0.15<br>(+7)                 | 0.68<br>(+385)               | 0.10<br>(-28)                        | 0.21<br>(+50)                        |
| Bone<br>marrow   | 0.09    | 0.19<br>(+ 111)              | 0.29<br>(+222)               | 0.12<br>(+33)                        | 0.09                                 |

**Table: A. 8: Zn / Se ratios in Liver, Spleen, Kidney and Bone marrow of control and different treated groups of Mice.**

**Figures in parentheses represent percent (%) increase (+) or decrease (-) in Zn / Se ratios.**

| Groups<br>Organs | Control | DAL implanted<br>on 10th day | DAL implanted<br>on 20th day | DAL+ BRH <sub>2</sub><br>on 20th day | DAL+ BRH <sub>2</sub><br>on 35th day |
|------------------|---------|------------------------------|------------------------------|--------------------------------------|--------------------------------------|
|                  | (A)     | (B)                          | (C)                          | (D)                                  | (E)                                  |
| Liver            | 2.61    | 4.53<br>(+ 73)               | 7.88<br>(+ 202)              | 1.30<br>(- 50)                       | 0.82<br>(- 68)                       |
| Spleen           | 0.77    | 2.76<br>(+ 258)              | 5.32<br>(+ 591)              | 0.63<br>(- 18)                       | 0.51<br>(- 34)                       |
| Kidney           | 1.77    | 2.64<br>(+ 49)               | 18.13<br>(+ 924)             | 1.38<br>(- 22)                       | 1.11<br>(-37)                        |
| Bone<br>marrow   | 0.87    | 1.77<br>(+ 103)              | 3.87<br>(+ 345)              | 0.99<br>(+ 14)                       | 0.67<br>(- 23)                       |

**Table- A. 9: Differences between means of the Cu concentrations of liver of different groups of mice.**

CD (P<0.05) = 1.64; CD (P< 0.01) = 2.22

| Animal Groups | B      | C       | D       | E       |
|---------------|--------|---------|---------|---------|
| A             | 14.7** | 14.75** | 0.25    | 9.8**   |
| B             |        | 0.05    | 14.95** | 4.9**   |
| C             |        |         | 15**    | 4.95**  |
| D             |        |         |         | 10.05** |

**Table- A. 10: Differences between means of the Cu concentrations of spleen of different groups of mice.**

CD (P<0.05) = 1.01; CD (P< 0.01) = 1.36

| Animal Groups | B      | C      | D       | E      |
|---------------|--------|--------|---------|--------|
| A             | 4.92** | 5.12** | 9.81**  | 3.1**  |
| B             |        | 0.2    | 14.73** | 8.02** |
| C             |        |        | 14.93** | 8.22** |
| D             |        |        |         | 6.71** |

**Table- A. 11: Differences between means of the Cu concentrations of kidney of different groups of mice.**

CD (P<0.05) = 1.77; CD (P< 0.01) = 2.39

| Animal Groups | B      | C     | D      | E       |
|---------------|--------|-------|--------|---------|
|               |        |       |        |         |
| A             | 3.19** | 5.1** | 0.08   | 25.05** |
| B             |        | 1.91* | 3.27** | 28.24** |
| C             |        |       | 5.18** | 30.15** |
| D             |        |       |        | 24.97** |

\* P < 0.05; \*\* P < 0.01

**Table- A. 12: Differences between means of the Cu concentrations of bone marrow of different groups of mice.**

CD (P<0.05) = 1.21; CD (P< 0.01) = 1.64

| Animal Groups | B      | C      | D      | E      |
|---------------|--------|--------|--------|--------|
| A             | 2.36** | 0.18   | 5.46** | 6.11** |
| B             |        | 2.18** | 3.1**  | 3.75** |
| C             |        |        | 5.28** | 5.93** |
| D             |        |        |        | 0.65   |

**Table- A. 13: Differences between means of Zn concentrations of liver of different groups of mice.**

CD (P<0.05) = 21.29; CD (P< 0.01) = 28.8

| Animal Groups | B       | C        | D       | E        |
|---------------|---------|----------|---------|----------|
| A             | 31.93** | 158.9**  | 6.3     | 59.57**  |
| B             |         | 126.97** | 25.63*  | 91.5**   |
| C             |         |          | 152.6** | 218.47** |
| D             |         |          |         | 65.87**  |

**Table- A. 14: Differences between means of Zn concentrations of spleen of different groups of mice.**

CD (P<0.05) = 12.67; CD (P< 0.01) = 17.14

| Animal Groups | B       | C       | D       | E       |
|---------------|---------|---------|---------|---------|
| A             | 73.65** | 96.23** | 21.05** | 13.65*  |
| B             |         | 22.58** | 52.6**  | 60**    |
| C             |         |         | 75.18** | 82.58** |
| D             |         |         |         | 7.4     |

\* P < 0.05; \*\* P < 0.01

**Table- A. 15: Differences between means of Zn concentrations of kidney of different groups of mice.**

CD (P<0.05) = 20.95; CD (P< 0.01) = 28.35

| Animal Groups | B     | C       | D       | E       |
|---------------|-------|---------|---------|---------|
| A             | 25.9* | 80.97** | 35.08** | 30.58** |
| B             |       | 55.07** | 9.18    | 4.68    |
| C             |       |         | 45.89** | 50.39** |
| D             |       |         |         | 4.5     |

**Table- A. 16: Differences between means of Zn concentrations of bone marrow of different groups of mice.**

CD (P<0.05) = 11.37; CD (P< 0.01) = 15.39

| Animal Groups | B       | C       | D       | E       |
|---------------|---------|---------|---------|---------|
| A             | 20.32** | 40.35** | 33.42** | 25.53** |
| B             |         | 20.03** | 13.1*   | 5.21    |
| C             |         |         | 6.93    | 14.82*  |
| D             |         |         |         | 7.89    |

**Table- A. 17: Differences between means of Se concentrations of liver of different groups of mice.**

CD (P<0.05) = 9.36; CD (P< 0.01) = 12.66

| Animal Groups | B    | C    | D     | E     |
|---------------|------|------|-------|-------|
| A             | 25** | 30** | 80**  | 90**  |
| B             |      | 5.0  | 105** | 115** |
| C             |      |      | 110** | 120** |
| D             |      |      |       | 10*   |

\* P < 0.05; \*\* P < 0.01



**Table- A. 18: Differences between means of Se concentrations of spleen of different groups of mice.**

CD (P<0.05) = 11.5; CD (P< 0.01) = 15.6

| Animal Groups | B    | C       | D        | E        |
|---------------|------|---------|----------|----------|
| A             | 60** | 84.67** | 59.33**  | 87.33**  |
| B             |      | 24.67** | 119.33** | 147.33** |
| C             |      |         | 144**    | 172**    |
| D             |      |         |          | 28**     |

**Table- A. 19: Differences between means of Se concentrations of kidney of different groupd mice.**

CD (P<0.05) = 10.57; CD (P< 0.01) = 14.3

| Animal Groups | B    | C       | D       | E        |
|---------------|------|---------|---------|----------|
| A             | 25** | 90.16** | 54.34** | 90**     |
| B             |      | 65.16** | 79.34** | 115**    |
| C             |      |         | 144.5** | 180.16** |
| D             |      |         |         | 35.66**  |

**Table- A. 20: Differences between means of Se concentrations of bone marrow of different groups of mice.**

CD (P<0.05) = 9.93; CD (P< 0.01) = 13.44

| Animal Groups | B       | C       | D       | E        |
|---------------|---------|---------|---------|----------|
| A             | 44.83** | 75**    | 20.33** | 69.67**  |
| B             |         | 30.17** | 65.16** | 114.5**  |
| C             |         |         | 95.33** | 144.67** |
| D             |         |         |         | 49.34**  |

\* P < 0.05; \*\* P < 0.01

**Table- A. 21: % of Copper Increases or decreases**

| Groups<br>Organs | DAL,<br>10th day | DAL,<br>20th day | DAL + BRH <sub>2</sub><br>20th day | DAL + BRH <sub>2</sub><br>35th day |
|------------------|------------------|------------------|------------------------------------|------------------------------------|
| Liver            | -58.9            | -59.07           | 1.0<br>(NS)                        | -39.3                              |
| Spleen           | -49.4            | -51.4            | 98.4                               | 31.09                              |
| Kidney           | -21.09           | -33.7            | 0.005<br>(NS)                      | 165.7                              |
| Bone<br>marrow   | 24.03            | 1.8<br>(NS)      | 55.6                               | 62.2                               |

**Table- A. 22: % of Zinc increases or decreases**

| Groups<br>Organs | DAL,<br>10th day | DAL,<br>20th day | DAL + BRH <sub>2</sub><br>20th day | DAL + BRH <sub>2</sub><br>35th day |
|------------------|------------------|------------------|------------------------------------|------------------------------------|
| Liver            | 16.3             | 81.3             | 3.2<br>(NS)                        | -30.5                              |
| Spleen           | 80.2             | 104.8            | 22.9                               | 14.9                               |
| Kidney           | 14.0             | 43.8             | 19.0                               | 16.5                               |
| Bone<br>marrow   | 21.4             | 45.4             | 35.1                               | 26.8                               |

**Table- A. 23: % of Selenium Increases or decreases**

| Groups<br>Organs | DAL,<br>10th day | DAL,<br>20th day | DAL + BRH <sub>2</sub><br>20th day | DAL + BRH <sub>2</sub><br>35th day |
|------------------|------------------|------------------|------------------------------------|------------------------------------|
| Liver            | -33.3            | -40              | 106.7                              | 120                                |
| Spleen           | -50              | -70.6            | 49.4                               | 72.8                               |
| Kidney           | -23.9            | -86.0            | 51.8                               | 85.9                               |
| Bone<br>marrow   | -40.8            | -68.2            | 18.5                               | 63.3                               |