RESULTS

Table (1) and fig.(1),(3) Bleeding time (min), clotting time (min), serum creatine kinase isoenzyme (CK-MB) level (U/L), T-wave voltage (m.v) T-ware area (mm^2) and infarction size in control group (group I).

It is clear from this table and figure that the bleeding time is ranged between 1.25 – 1.6 min. with a mean value of 1.5 min ± 0.1, The clotting time is ranged between 2.5 – 3.5 min with a mean value of 3.17 min ± 0.4, The serum CK-MB isoenzyme is ranged between 162 – 286 U/L with mean value 212.67 U/L ± 36.9 and that T-wave voltage is ranged between 0.18 – 0.25 m.v with a mean value of 0.22 m.v ± 0.03 and the T-wave area is ranged between 4 – 7 mm^2 with mean 5.17 mm^2 ± 1.17 and no infarction was detected in all rats of this group.

Table (2) and fig.(2,3) Bleeding time (min), clotting time (min), serum CK–MB level (U/L), T-wave voltage (m.v), T-wave area (mm^2) and infarction size (%LV) in rats injected with isoprenaline in a dose of 75mg/kgm (group II).

It is clear from table (2) and figures (2), (3) that the bleeding time is ranged between 1.25 – 1.6 min. with mean value 1.5 min ± 0.1, The clotting time is ranged between 3 – 4 min with mean value 3.33 min ± 0.41 and CK-MB level 2 hours after injection of isoprenaline is ranged between 1200 – 1500 U/L with a mean value of 1334 U/L ± 144.8.

It is also clear that T-wave voltage after 5 minutes from injection of isoprenaline is ranged between 0.25 – 0.45 m.v with a mean value of

0.35 m.v ± 0.07, after 15 minutes from injection, it is ranged between 0.25 – 0.48 m.v with a mean value of 0.37 m.v ± 0.08, 30 minutes from isoprenaline injection, it is ranged between 0.35 – 0.48 m.v. with mean value 0.38 m.v ± 0.05, after 60 minutes, it is ranged between 0.38 – 0.45 m.v with mean value 0.41 m.v ± 0.02 while after 120 minutes from injection, T-wave voltage is ranged between 0.3 – 0.7 m.v with mean value 0.44 m.v ± 0.1. Also it is clear that T-wave area after 5 minutes from injection of isoprenaline is ranged between 8 –14 mm^2 with a mean value of 10.33 mm^2 ± 2.34, 15 minutes from injection, it is ranged between 9 –16 mm^2 with mean value 11.5 mm^2 ± 2.8, 30 minutes from isoprenaline injection, it is ranged between 10 –16 mm^2 with mean value 12 ± 2.13 mm^2. 60 minutes from isoprenaline injection, it ranged between 11 –13.5 mm^2 with mean with mean value 12.17 ± 1.03 mm^2 while T-wave area 120 minutes from isoprenaline injection is ranged between 9 – 15.5 mm^2 with a mean value of 12 mm^2 ± 2.29. The infarction size in this group of rats after 2 hours from injection of isoprenaline ranged between 20 – 36 %LV with mean value 28 % ± 5.2.

Table (3) and fig.(4) Effect of isoprenaline injection in a dose of 75mg/kgm on bleeding time, clotting time and serum CK-MB level in comparison with control group.

It is clear that injection of isoprenaline caused significant increase in CK-MB level as it was changed from 212 U/L ± 36.9 in control group to 1334 U/L ± 144.8 after injection of isoprenaline ($P < 0.001$) while there was no significant change in bleeding time or clotting time.

Table (4) and fig.(4) Effect of isoprenaline injection in a dose of 75mg/kgm on T-wave voltage and T-wave area 5, 15, 30, 60 and 120 minutes after injection in comparison with control group.

From table (4) and fig.(4), It is clear that T-wave voltage shows a significant increase after 5 minutes when compared with the control group as it was changed from 0.22 m.v ± 0.03 in the control group to 0.35 m.v ± 0.07 m.v after isoprenaline injection (P <0.001). This significant increase in T-wave voltage continued after 15, 30, 60 and 120 minutes from injection of isoprenaline with mean values 0.37 m.v ± 0.08., 0.38 m.v ± 0.05 (P <0.001), 0.41 m.v ± 0.02 (P <0.001) and 0.44 m.v ± 0.1 (P <0.05) respectively as compared with corresponding values in the control group. Also T-wave area shows a significant increase after 5 minutes when compared with the control group as it was changed from 5.17 mm^2 ± 1.17 to 10.33 mm^2 ± 2.34 after isoprenaline injection (P <0.001). This significant increase in T-wave area continued after 15, 30 , 60 and 120 minutes from injection of isoprenaline with mean values 11.5 mm^2 ± 2.88 (P < 0.001), 12 mm^2 ± 2.13 (P <0.001), 12.17 mm^2 ± 1.03 (P <0.001) and 12 mm^2 ± 2.29 (P <0.001) respectively as compared with the control group.

Table (5) and fig.(5A, 5B) Effect of methionine intake at a dose of 0.5gm/kgm/day for one week on bleeding time (min), clotting time (min), serum CK-MB level (U/L), T-wave voltage (m.v), T-ware area (mm^2) and infarction size (%LV) in rats injected with isoprennaline (group III).

Bleeding time in this group of rats is ranged between 0.5 – 1.5 min with mean value 1.08 min ± 0.49. The clotting time is ranged between 2 – 4 min with mean value 2.37 min ± 1.09. CK-MB level, 2 hours from

injection of isoprenaline, is ranged between 1578 – 1908 U/L with a mean value of 1732.3 U/L ± 123.9.

T-wave voltage after 5 minutes from isoprenaline injection in this group of rats is ranged between 0.32 – 0.48 m.v. with mean value of 0.4 m.v ± 0.06, 15 minutes from injection, it is ranged between 0.35 – 0.65 m.v. with mean value 0.46 m.v ± 0.11, 30 minutes from isoprenaline injection, it is ranged between 0.38 m.v ± 0.88, 60 minutes from isoprenaline injection, T-wave voltage ranged between 0.38 – 1.25 with mean value 0.69 ± 0.32 m.v while 120 minutes from isoprenaline injection it is ranged between 0.42 – 1.2 m.v with mean value 0.68 m.v ± 0.28. It is also clear that T-wave area 5 minutes after injection of isoprenaline in this group of rats ranged between 10 – 15 mm^2 with mean value of 12.5 mm^2 ± 1.76 mm^2. 15 minutes from injection of isoprenaline, it ranged between 11 – 22 mm^2 with mean value 14.67 mm^2 ± 3.98. 30 minutes from isoprenaline injection, it ranged between 11 – 22 mm^2 with mean value 18.33 mm^2 ± 7.63. 60 minutes from isoprenaline injection, T-wave area ranged between 12 – 38 mm^2 with mean value 22 mm^2 ± 10.18 while 120 minutes from injection of isoprenaline it ranged between 13 – 37 mm^2 with mean value 21.17 mm^2± 8.7. The infarction size in this group of rats after 2 hours from injection of isoprenaline ranged between 36 – 45.5 %LV with mean value 40.33 % ± 3.4.

Table (6) and fig.(6) Effect of methionine intake at a dose of 0.5gm/kgm/day for one week on bleeding time, clotting time and serum CK-MB level in isoprenline injected rats in comparison with isoprenaline injected group.

From this table, it is clear that there is a significant decrease in bleeding time (min) in isoprenaline injected rats receiving methionine at a dose of 0.5gm/kgm/day for one week when compared with isoprenaline

injected rats as it was changed from 1.5 min ± 0.1 in isoprenaline injected group to 1.08 min ± 0.49 in isoprenaline injected rats receiving methionine (P <0.05). As regard the clotting time, also there is a significant decrease in isoprenaline injected rats receiving methionine when compared with isoprenaline injected rats as it was changed from 3.33 min ± 0.41 in isoprenaline injected group to 2.37 min ± 1.09 in isoprenaline injected rats receiving methionine (P <0.05). As regard the CK-MB (U/L), it is clear that there is a significant increase in isoprenaline injected rats receiving methionine when compared with isoprenaline injected rats as it was changed from 1334 U/L ± 144.8 in isoprenaline injected group to 1732.3 U/L ± 123.9 in isoprenaline injected rats receiving methionine (P <0.001).

Table (7) and fig.(7) Effect of methionine intake at a dose of 0.5gm/kgm/day for one week on T-wave voltage, T-wave area and infarction size in isoprenaline injected rats in comparison with isoprenaline injected group.

From this, it is clear that methionine intake leads to significant increase in T-wave voltage (m.v) after 30, 60, 120 min of injection of isoprenaline when compared with isoprenaline injected group as it was changed from with 0.38 m.v ± 0.05, 0.41 m.v ± 0.02, 0.44 m.v ± 0.1 in isoprenaline injected group to 0.58 m.v ± 0.19, 0.69 m.v ± 0.32, 0.68 m.v ± 0.28 respectively (P <0.05). As regard T-wave area (mm^2), there is a significant increase in isoprenaline injected group receiving methionine when compared with isoprenaline injected group after 30, 60, 120 min of injection as it was changed from with 12 mm^2 ± 2.13, 12.17 mm^2 ± 1.03, 12 mm^2 ± 2.29 to 18.33 mm^2 ± 7.63, 22 mm^2 ± 10.18, 21.17 mm^2 ± 8.7 respectively (P <0.05). As regard the infarction size, there is a significant

increase in isoprenaline injected rats receiving methionine when compared with isoprenaline injected rats as it was changed from 28 % ± 5.2 to 40.33 % ± 3.4 (P <0.001).

Table (8) and fig.(8A, 8B) Effect of folic acid intake at a dose of 2mg/kgm/day for one week on bleeding time (min), clotting time (min), serum CK-MB level (U/L), T-wave voltage (m.v), T-wave area (mm^2) and infarction size (%LV) in rats injected with isoprennaline (group IVa).

From this table and figures, it is clear that the bleeding time is ranged between 2.5 – 3.5 min. with mean value 2.92 min ± 0.38. The clotting time is ranged between 4 – 6 min with mean value 4.92 min ± 0.74 and CK-MB level is ranged between 800 – 1180 U/L with mean value 927.5 U/L ± 135.2.

Also it is clear that T-wave voltage 5 minutes after injection of isoprenaline is ranged between 0.20 – 0.4 m.v with mean value 0.27 m.v ± 0.07, After 15 minutes from injection it is ranged between 0.22 – 0.4 m.v with mean value 0.29 m.v ± 0.06, after 30 minutes it ranged between 0.22 – 0.38 m.v. with mean value 0.31 m.v ± 0.06, 60 minutes from injection, it is ranged between 0.3 – 0.42 m.v with a mean value of 0.37 m.v ± 0.04, while after 120 minutes from injection, it is ranged between 0.3 – 0.42 m.v with mean value 0.34 m.v ± 0.06. It is also clear that T-wave area in this group of rats 5 minutes after injection of isoprenaline ranged between 5 – 12 mm^2 with mean value 7.83 ± 2.93 mm^2, after 15 minutes from isoprenaline injection, it is ranged between 8 – 13 mm^2 with mean value 9.33 mm^2 ± 2.5, 30 minutes from injection, it is ranged between 7 – 12 mm^2 with mean value 9.5 ± 1.87 mm^2, 60 minutes from isoprenaline injection, T-wave area ranged between 10 – 12 mm^2 with

mean value 11 mm^2 ± 0.09 while 120 minutes from injection, it is ranged between 8 – 11 mm^2 with mean value 9.83 ± 1.04 mm^2. The infarction size 2 hours from injection of isoprenaline is ranged between 15 – 26.5 %LV with mean value 22.5 % ± 4.1.

Table (9) and fig.(9A, 9B) Effect of folic acid intake at a dose of 5mg/kgm/day for one week on bleeding time (min), clotting time (min), serum CK-MB level (U/L), T-wave voltage (m.v), T-wave area (mm^2) and infarction size (%LV) in rats injected with isoprenaline (group IVb).

The bleeding time in this group of rats is ranged between 2.5 – 3.5 min. with mean value 3.08 min ± 0.49, the clotting time is ranged between 4.5 – 6 min. with mean value 5.08 ± 0.58 min. and CK-MB level after 2 hours from isoprenaline injection ranged between 416 – 798 U/L with mean value 570 U/L ± 137.5.

Also it is clear that T-wave voltage 5 minutes after injection of isoprenaline in this group of rats ranged between 0.15 – 0.28 m.v with mean value 0.23 m.v ± 0.04, After 15 minutes from injection, it is ranged between 0.18 – 0.32 m.v. with mean value 0.25 m.v ± 0.05, 30 minutes from injection, it is ranged between 0.18 – 0.4 m.v. with mean value of 0.28 m.v ± 0.08, 60 minutes after isoprenaline injection, it is ranged between 0.15 m.v – 0.32 with mean value 0.25 ± 0.08 while 120 minutes from isoprenaline injection, T-wave voltage ranged between 0.15 – 0.35 m.v with a mean value of 0.25 m.v ± 0.08. T-wave area 5 minutes after injection of isoprenaline ranged between 4 – 7 mm^2 with mean value 5.83 mm^2 ± 1.17, 15 minutes from injection, it is ranged between 5 – 8 mm^2 with mean value 6.58 ±1.02 mm^2, 30 minutes from isoprenaline injection,

it is ranged between 6 – 10 mm^2 with mean value 7.5 mm^2 ± 1.6, T-wave area ranged after 60 minutes from isoprenaline injection is ranged between 4 – 8 mm^2 with mean value 5.83 mm^2 ± 1.5 while after 120 minutes, it is ranged between 4 – 8 mm^2 with a mean value of 5.83 mm^2 ± 1.47. The infarction size after 2 hours from injection of isoprenaline ranged between 12 – 20 %LV with mean value 16.83 % ± 2.98.

Table (10) and fig.(10) Effect of two different doses of folic acid intake 2mg, 5mg/kgm/day for one week on bleeding time, clotting time and serum CK-MB level in isoprenaline injected rats.

Table (10) and figure (10) show that there is a significant increase in bleeding time (min) and clotting time (min) in isoprenaline injected rats which were pretreated with folic acid 2mg/kgm/day for one week as the bleeding time was changed from 1.5 min ± 0.1 in isoprenaline injected group to 2.92 min ± 0.38 in isoprenaline injected group pretreated with folic acid (P <0.001). Clotting time was changed from 3.33 min. ± 0.41 in isoprenaline injected group to 4.92 min ± 0.74 in isoprenaline injected group pretreated with folic acid (P <0.001). As regard CK-MB (U/L), there is a significant decrease CK-MB level (U/L) in isoprenaline injected group pretreated with folic acid as it was changed from 1334 U/L ± 144.8 in isoprenaline injected group to 927.5 U/L ± 135.2 in isoprenaline injected group pretreated with folic acid (p <0.001).

On increasing the dose of folic acid from 2mg/kgm/day to 5mg/kgm/day for one week before isoprenaline injection, there is a significant increase in bleeding time (min) and clotting time (min) in isoprenaline injected rats pretreated with folic acid 5mg/kgm/day as the bleeding time was changed from 1.5 min ± 0.1 in isoprenaline injected

group to 3.08 min ± 0.49 in isoprenaline injected group pretreated with folic acid (P <0.001). Clotting time was changed from 3.33 min. ± 0.41 in isoprenaline injected group to 5.08 min ± 0.58 in isoprenaline injected group pretreated with folic acid 5mg/kgm/day (P <0.001). As regard CK-MB (U/L), there is a significant decrease in its level in isoprenaline injected rats pretreated with folic acid when compared with isoprenaline injected rats as it was changed from 1334 U/L ± 144.8 in to 570 U/L ± 137.5 (p <0.001).

By comparing the effect of the two doses of folic acid (2mg, 5mg/kgm/day) for one week before isoprenaline injection, there is no significant change in both bleeding time and clotting time but there is a significant decrease in CK-MB in rats receiving folic acid at a dose of 5mg/kgm/day for one week with that of 2mg/kgm/day for one week as it was changed from 927.5 U/L ± 135.2 in isoprenaline injected rats pretreated with folic acid 2mg/kgm/day for one week to 570 U/L ± 137.5 in isoprenaline injected rats pretreated with folic acid 5mg/kgm/day for one week (P <0.001).

Table (11) and fig.(11) Effect of two different doses of folic acid intake 2mg, 5mg/kgm/day for one week on T-wave voltage in isoprenaline injected rats.

As shown in table (11) and figure (11), It is clear that there is a significant decrease in T-wave voltage (m.v) in isoprenaline injected group pretreated with folic acid 2mg/kgm/day for one week after 30, 60, 120 minutes after injection when compared with isoprenaline injected group as T-wave voltage was changed from 0.38 m.v ± 0.05, 0.41 m.v ± 0.02, 0.44 m.v ± 0.1 in isoprenaline injected group to 0.31 m.v ± 0.06,

0.37 m.v ± 0.04, 0.34 m.v ± 0.06 respectively in isoprenaline injected group pretreated with folic acid 2mg/kgm/day (P <0.05).

On increasing the dose of folic acid from to 5mg/kgm/day for one week before isoprenaline injection, there is a significant decrease in T-wave voltage (m.v) in isoprenaline injected group pretreated with folic acid 5mg/kgm/day for one week 5, 15, 30, 60, 120 minutes after isoprenaline injection when compared with isoprenaline injected group as it was changed from 0.35 m.v ± 0.07, 0.37 m.v ± 0.08, 0.38 m.v ± 0.05, 0.41 m.v ± 0.02, 0.44 m.v ± 0.1 in isoprenaline injected group to 0.23 m.v ± 0.04, 0.25 m.v ± 0.05, 0.28 m.v ± 0.08, 0.25 m.v ± 0.07, 0.25 m.v ± 0.08, respectively in isoprenaline injected group pretreated with folic acid (P <0.01, 0.01, 0.01, 0.001, 0.01) respectively.

By comparing the effect of the two doses of folic acid (2mg, 5mg/kgm/day) for one week before isoprenaline injection, there is significant decrease in T-wave voltage in isoprenaline injected rats receiving folic acid intake 5mg/kgm/day for one week after 60, 120 min. of injection when compared with isoprenaline injected rats receiving folic acid intake 2mg/kgm/day as it was changed from 0.37 m.v ± 0.04, 0.34 m.v ± 0.06 to 25 ± 0.07 m.v. 0.25 ± 0.08 m.v respectively P <(0.01, 0.05).

Table (12) and fig.(12) Effect of two different doses of folic acid intake 2mg, 5mg/kgm/day for one week on T-wave area and infarction size in isoprenaline injected rats.

From this table and figure, as regard T-wave area (mm^2), it is clear that in isoprenaline injected rats pretreated with folic acid 2mg/kgm/day for one week, there is a significant decrease in T-wave area 30, 60 and 120 minutes after isoprenaline injection when compared with isoprenaline

injected group as T-wave area was changed from 12 $mm^2 \pm 2.13$, , 12.17 $mm^2 \pm 1.03$, 12 $mm^2 \pm 2.29$ in isoprenaline injected group to 9.5 $mm^2 \pm$ 1.87, , 11 $mm^2 \pm 0.09$, 9.83 $\pm$ 1.04 respectively in isoprenline injected group pretreated with folic acid 2mg/kgm/day ($P < 0.05$). As regard the infarction size, it is clear that there is a significant reduction in the infarction size in isoprenaline injected rats pretreated with folic acid when compared with isorenaline injected rats as it was changed from 28% $\pm$ 5.2 in isoprenaline injected group to 22.5 % $\pm$ 4.1 in isoprenline injected group pretreated with folic acid ($P < 0.05$).

On increasing the dose of folic acid from 2mg/kgm/day to 5mg/kgm/day for one week before isoprenaline injection, there is a significant decrease in T-wave area after 5, 15, 30, 60 120 min of isoprenaline injection as it was changed from 10.33 $mm^2 \pm 2.34$, 11.5 $mm^2 \pm 2.8$, 12 $mm^2 \pm 2.13$, 12.17 $mm^2 \pm 1.03$, 12 $mm^2 \pm 2.29$ in isoprenaline injected group to 5.83 $mm^2 \pm 1.17$, 6.58 $mm^2 \pm 1.02$, 7.5 mm^2 ± 1.6, 5.83 $mm^2 \pm 1.5$, 5.83 $mm^2 \pm 1.4$ respectively in isoprenaline injected rats pretreated with folic acid 5mg/kgm/day for one week ($P < 0.001$). As regard the infarction size, there is a significant decrease in the infarction size in isoprenaline injected rats pretreated with folic acid 5mg/kgm/day for one week as it was changed from 28 % $\pm$ 5.2 in isoprenaline injected group to 16.83 % $\pm$ 2.98 in isoprenline injected group pretreated with folic acid 5mg/kgm/day ($P < 0.001$).

By comparing the effect of the two doses of folic acid (2mg, 5mg/kgm/day) for one week before isoprenaline injection, there is a significant decrease after 15, 30, 60 and 120 min of injection in isoprenaline injected rats receiving folic acid 5mg/kgm/day for one week when compared with the corresponding values in isoprenaline injected

rats receiving folic acid at a dose of 2mg/kgm/day for one week as they are changed from 9.33 $mm^2 \pm 2.5$, 9.50 $mm^2 \pm 1.87$, 11$mm^2 \pm 0.09$, 9.83 $mm^2 \pm 1.04$ to 6.58 mm2 ±1.02, 7.5 $mm^2 \pm 1.60$, 5.83 $mm^2 \pm 1.50$, 5.83 $mm^2 \pm 1.47$ respectively P <(0.05, 0.05, 0.001, 0.001). Also as regard the infarction size, there is a significant decrease in isoprenaline injected rats receiving folic acid 5mg/kgm/day for one week when compared with isoprenaline injected rats receiving folic acid 2mg/kgm/day for one week as it is changed from 22.5 % ± 4.1 to 16.83 % ± 2.98 (P <0.05).

Table (13) and fig.(13A, 13B) Effect of folic acid intake at a dose of 2mg/kgm/day with methionine 0.5gm/kgm/day for one week on bleeding time (min), clotting time (min), serum CK-MB (U/L), T-wave voltage (m.v.),T-wave area (mm^2) and infarction size (%LV) in rats injected with isoprenaline (groupVa).

Bleeding time in this group of rats is ranged between 2 – 3.5 min with mean value 2.75 min ± 0.52 The clotting time ranged between 4 – 5.5 min. with mean value 4.75 min ± 0.69 The serum CK-MB level in this group of rats after 2 hours from injection of isoprenaline ranged between 1150 –1532 U/L with mean value 1290 U/L ± 168.4. Also it is clear that T-wave voltage in this group of rats 5 minutes after injection of isoprenaline ranged between 0.28 – 0.38 m.v with mean value 0.31 m.v ± 0.04. After 15 minutes from injection of isoprenaline, it ranged between 0.3 – 0.4 m.v with mean value 0.33 m.v ± 0.04. 30 minutes from injection of isoprenaline, it ranged between 0.3 – 0.35 m.v with mean value 0.33 m.v ± 0.02. 60 minutes from injection of isoprenaline, T-wave voltage ranged between 0.28 – 0.42 m.v with mean value 0.33 m.v ± 0.05 while 120 minutes from injection of isoprenaline, it ranged between 0.28 – 0.55 m.v with mean value 0.38 ± 0.12 m.v. It is also clear that T-wave area in

5 minutes after injection of isoprenaline ranged between 6 – 11 mm^2 with mean value 7.5 mm^2 ± 1.87. 15 minutes from injection of isoprenaline, it ranged between 7 – 12 mm^2 with mean value 9.17 mm^2 ± 1.94. After 30 minutes from isoprenaline injection, it ranged between 7 – 12 mm^2 with mean value 9.33 mm^2 ± 1.97. 60 minutes from isoprenaline injection, T-wave area ranged between 7 – 10 mm^2 with mean value 8.75 mm^2 ± 1.40. 120 minutes from isoprenaline injection, it ranged between 6 – 14 mm^2 with mean value 9.33 ± 3.07 mm^2. The infarction size in this group of rats after 2 hours from injection of isoprenaline ranged between 18.5 – 24.5 % LV with mean value 21.25 % ± 2.16.

Table (14) and fig.(14A, 14B) Effect of folic acid intake at a dose of 5mg/kgm/day with methionine 0.5gm/kgm/day for one week on bleeding time (min), clotting time (min), serum CK-MB (U/L), T-wave voltage (m.v.),T-wave area (mm^2) and infarction size (%LV) in rats injected with isoprenaline (group Vb).

Bleeding time in this group of rats is ranged between 3 – 4 min. with mean value 3.5 min ± 0.45. The clotting time is ranged between 5 – 6 min. with mean value 5.5 min ± 0.45. The serum CK-MB level after 2 hours from isoprenaline injection is ranged between 442 – 822 U/L with mean value 654.5 U/L ± 147.7.

It is clear also that T-wave voltage in this group of rats 5 minutes after isoprenaline injection ranged between 0.22 – 0.3 m.v. with mean value of 0.27 m.v ± 0.03. 15 minutes from isoprenaline injection, it ranged between 0.25 – 0.32 m.v with mean value of 0.28 m.v ± 0.03. After 30 minutes from isoprenaline injection, it ranged between 0.25 – 0.32 m.v with mean value 0.29 m.v ± 0.02. 60 minutes from isoprenaline injection, T-wave voltage ranged between 0.25 – 0.32 m.v. with mean

value 0.28 ±0.03 m.v. while 120 minutes from isoprenaline injection it ranged between 0.22 – 0.35 m.v with mean value 0.26 m.v ± 0.05. It is also clear that T-wave area 5 minutes after isoprenaline injection ranged between 5 – 8 mm^2 with mean value 6.5 mm^2 ± 1.05. After 15 minutes from isoprenaline injection, it ranged between 6 – 10 mm^2 with mean value 7.83 mm^2 ± 1.5. 30 minutes from isoprenaline injection, it ranged between 7 – 10 mm^2 with mean value 8.33 mm^2 ± 1.37. 60 minutes from isoprenaline injection, T-wave area ranged between 6 – 9 mm^2 with mean value 7.83 mm^2 ± 1.17 while 120 minutes from injection, it ranged between 5 – 9 mm^2 with mean value 7 ± 1.55 mm^2. The infarction size in this group of rats after 2 hours from isoprenaline injection ranged between 13–20 %LV with mean value 16.92 % ± 2.33.

Table (15) and fig.(15) Effect of two different doses of folic acid (2mg, 5mg/kgm/day) with methionine 0.5gm/kgm/day for one week on bleeding time, clotting time and serum CK-MB level in isoprenaline injected rats.

From this table, there is a significant increase in bleeding time (min) in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day for one week when compared with isoprenaline injected rats receiving methionine only as it was changed from 1.08 min ± 0.49 in isoprenaline injected rats receiving methionine to 2.75 min ± 0.52 in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day ($P < 0.001$). As regard the clotting time (min), there is also a significant increase in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day when compared with isoprenaline injected rats receiving methionine only as it was changed from 2.37 min ± 1.09 in isoprenaline injected rats receiving methionine to 4.75 min ± 0.69 in

isoprenaline injected rats receiving folic acid with methionine (P <0.001). As regard CK-MB (U/L), there is a significant decrease in isoprenaline injected rats receiving methionine with folic acid when compared with isoprenaline injected rats receiving methionine only as it was changed from 1732.3 U/L ± 123.9 isoprenaline injected rats receiving methionine to 1290 U/L ± 168.4 in isoprenaline injected rats receiving methionine with folic acid (P < 0.001).

Also it is clear that when we increase the dose of folic acid intake from 2mg/kgm/day to 5mg/kgm/day for one week before isoprenaline injection, there is a significant increase in bleeding time (min) in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day for one week as it was changed from 1.08 min ± 0.49 in isoprenaline injected rats receiving methionine to 3.5 min ± 0.45 in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day for one week (P < 0.001). As regard the clotting time (min), there is also a significant increase in isoprenaline injected rats receiving methionine and folic acid as it was changed from 2.37 min ± 1.09 in isoprenaline injected rats receiving methionine to 5.5 min ± 0.45 in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day for one week (P < 0.001). As regard CK-MB (U/L), there is a significant decrease in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day for one week when compared with isoprenaline injected rats receiving methionine only as it was changed from 1732.3 U/L±123.9 in isoprenaline injected rats receiving methionine to 654.5 U/L ± 147.7 in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day for one week (P < 0.001).

When we compare the effect of the two doses of folic acid , it is clear that isoprenaline injection after methionine intake with folic acid 5mg/kgm/day for 7 days shows a significant increase in bleeding time when compared with isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day, as it was changed from 2.75 min ± 0.52 in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day to 3.5 min ± 0.45 in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day ($P < 0.05$). As regard the clotting time, also there is a significant increase in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day when compared with isoprenaline injected rats receiving methionine and folic acid in a dose of 2mg/kgm/day, as it was changed from 4.75 min ± 0.69 in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day to 5.5 min ± 0.45 in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day ($P < 0.05$). As regard CK-MB (U/L), there is a significant decrease in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day when compared with isoprenaline injected rats receiving methionine and folic acid in a dose of 2mg/kgm/day as it was changed from 1290 U/L ± 168.40 in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day to 654.5 U/L± 147.70 in isoprenaline injected rats receiving methionine and folic acid in a dose of 5mg/kgm/day ($P < 0.05$).

Table (16) and fig.(16) Effect of two different doses of folic acid (2mg, 5mg/kgm/day) with methionine 0.5gm/kgm/day for one week on T-wave voltage in rats injected with isoprenaline.

Folic acid intake in a dose of 2mg/kgm/day for one week with methionine in isoprenaline injected rats leads to a significant decrease in T-wave voltage (m.v) when compared with isoprenaline injected rats

receiving methionine after 5, 15, 30, 60, 120 min, as it was changed from 0.40 m.v ± 0.06, 0.46 m.v ± 0.11, 0.58 m.v ± 0.19, 0.69 m.v ± 0.32, 0.68 m.v ± 0.28 in isoprenaline injected rats receiving methionine to 0.31 m.v ± 0.04, 0.33 m.v ± 0.04, 0.33 m.v ± 0.02, 0.33 m.v ± 0.05, 0.38 m.v ± 0.12 in isoprenaline injected rats receiving methionine with folic acid 2mg/kgm/day $P <$ (0.01, 0.05, 0.01, 0.05, 0.05) respectively.

From this table, it is also clear that T-wave voltage (m.v) shows a significant decrease in rats pretreated with methionine and folic acid in a dose of 5mg/kgm/day for 7 days before isoprenaline injection after 5, 15, 30, 60, 120 min, as it was changed from 0.40 m.v ± 0.06, 0.46 m.v ± 0.11, 0.58 m.v ± 0.19, 0.69 m.v ± 0.32, 0.68 m.v ± 0.28 in isoprenaline injected rats receiving methionine only to 0.27 m.v ± 0.03, 0.28 m.v ± 0.03, 0.29 m.v ± 0.02, 0.28 m.v ± 0.03, 0.26 m.v ± 0.05 respectively $P <$(0.001, 0.01, 0.01, 0.01, 0.01) respectively.

By comparing the effect of the two doses of folic acid (2mg, 5mg/kgm/day) for one week with methionine intake 0.5gm/kgm/day for one week before isoprenaline injection, there is a there is a significant decrease in T-wave voltage in isoprenaline injected rats that received methionine and folic acid at a dose of 5mg/kgm/day when compared with isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day after 15, 30, 60, 120 min as it was changed from 0.33 m.v ± 0.04, 0.33 m.v ± 0.02, 0.33 m.v ± 0.05, 0.38 m.v ± 0.12 in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day to 0.28 m.v ± 0.03, 0.29 m.v ± 0.02, 0.28 m.v ± 0.03, 0.26 m.v ± 0.05 respectively ($P <0.05$).

Table (17) and fig.(17) Effect two different doses of folic acid (2mg, 5mg/kgm/day) with methionine 0.5gm/kgm/day for one week on T-wave area and infarction size in rats injected with isoprenaline.

From this, it is clear that in isoprenaline injected rats receiving methionine with folic acid 2mg/kgm/day for one week there is significant decrease in T-wave area after 5, 15, 30, 60, 120 min when compared with isoprenaline injected rats receiving methionine only, as it was changed from 12.5 mm^2 ± 1.76, 14.67 mm^2 ± 3.98, 18.33 mm^2 ± 7.63, 22 mm^2 ± 10.18, 21.17 mm^2 ± 8.7 in isoprenaline injected rats receiving methionine only to 7.5 mm^2 ± 1.87, 9.17 mm^2 ± 1.94, 9.33 mm^2 ± 1.97, 8.75 mm^2 ± 1.4, 9.33 mm^2 ± 3.07 in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day for one week $P <$ (0.001, 0.01, 0.05, 0.01, 0.01). As regard the infarction size, there is also a significant decrease in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day for one week when compared with isoprenaline injected rats receiving methionine only, as it was changed from 40.33 % ± 3.40 in isoprenaline injected rats receiving methionine to 21.25 % ± 2.16 in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day for one week ($P < 0.001$).

On increasing the dose of folic acid from 2mg/kgm/day to 5mg/kgm/day with methionine intake 0.5gm/kgm/day for one week before isoprenaline injection, as regard T-wave area (mm^2), there is a significant decrease in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day for one week when compared with isoprenaline injected rats receiving methionine only, as it was changed from 12.50 mm^2 ± 1.76, 14.67 mm^2 ± 3.98, 18.33 mm^2 ± 7.63, 22 mm^2 ± 10.18, 21.17 mm^2 ± 8.7 after 5, 15, 30, 60, 120 min in isoprenaline injected rats receiving methionine only to 6.5 mm^2 ± 1.05, 7.83 mm^2 ± 1.50, 8.33 mm^2

± 1.37, 7.83 mm^2 ± 1.17, 7 mm^2 ± 1.55 in isoprenaline injected rats receiving methionine and folic acid at dose of 5mg/kgm/day for 7 days, P < (0.001, 0.01, 0.01, 0.01, 0.01) respectively. As regard the infarction size, there is a significant decrease in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day for 7 days when compared with isoprenaline injected rats receiving methionine only, as it was changed from 40.33 % ± 3.40 to 16.92 % ± 2.33 in isoprenaline injected rats receiving methionine and folic acid 5mg/kgm/day for 7 days (P < 0.001).

By comparing the effect of the two doses of folic acid 2mg, 5mg/kgm/day with methionine 0.5gm/kgm/day for one week before isoprenaline injection, as regard T-wave area (mm^2), there was no significant change between the two groups. As regard the infarction size, there is also a significant decrease in rats injected with isoprenaline after methionine and folic acid at a dose of 5mg/kgm/day when compared with isoprenaline injected rats and receiving methionine and folic acid in a dose of 2mg/kgm/day as it was changed from 21.25 % ± 2.16 in isoprenaline injected rats receiving methionine and folic acid 2mg/kgm/day to 16.92 % ± 2.33 in isoprenaline injected rats and receiving methionine and folic acid 5mg/kgm/day (P < 0.05).