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Poster Presentations

P-19

Assessment of sperm parameters in type 1 and 2 diabetes mellitus male mice C57

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Background: Diabetes mellitus could have multiple effects on various organs of the body. One of the organs that are sensitive to these effects is testis and spermatogenesis process.

Objective: Aim of this study was to compare the effects diabetes type 1 (DM1) and type 2 (DM2) on sperm parameters.

Materials and Methods: Forty male mice C57 (8 weeks; 22 gr) were divided into 4 groups (n = 10/each). Mice were fed with standard-chow diet except DM2 group that was fed with a 60%-kcal high-fat diet for 8 weeks. Furthermore, sham group received a single dose of sodium citrate buffer (0.005 mg/kg) as soluble of streptozotocin (STZ), DM1 group was induced by multiple low-dose injections of STZ (45 mg/kg/day for 5 consecutive days), and DM2 group after four weeks was given a single dose of STZ (110 mg/kg). After eight weeks, the mice were sacrificed and sperm was extorted from the cauda epididymis for tests on sperm parameters.

Results: This study showed that the effects of diabetes on sperm parameters were compared between groups. The mean percentage of sperm non progressive motility significantly was higher in DM2 group than control group ($p = 0.05$), however sperm total motility difference between groups wasn't remarkable. Moreover, the mean percentage of sperm concentration was lower in DM1 group compared to other groups ($p < 0.02$).

Conclusion: Sperm parameters in type 1 and 2 diabetes mellitus male mice C57 could effect on reproductive system. This result showed that reduction of sperm concentration and progressive motility of sperm in DM1 and DM2 model mice were lower compared to control group.

Key words: *Diabetes mellitus, Sperm parameters, Infertility.*