

Original Paper

# BMP 2 and BMP 4 genes expression in the development of the embryo heart in induced gestational diabetes of C57BL/6 mice

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## Abstract

**Background and Objective:** Gestational diabetes mellitus (GDM) is usually a disease caused by inadequate insulin production in pregnant women. GDM induces abnormal fetal growth. This study was done to evaluate the BMP2 and BMP4 genes expression in the development of the embryos heart in induced gestational diabetes of C57BL/6 mice.

**Methods:** In this experimental study, 8-week old adult C57BL/6 mice were randomly divided into diabetic and control groups. After mating of animals, the dams in diabetic group were received a single dose of 150 mg/kg/bw of streptozotocin on gestational day 1 of pregnancy, intraperitoneally. After 11.5 days of pregnancy, the embryos of both groups were extracted and heart tissue was extracted. RNA total tissue of the heart was extracted by Trizol. After extracting RNA, expression of BMP2 and BMP4 genes in the heart of both groups was estimated by Real-time PCR.

**Results:** There was no significant difference in expression of BMP2 and BMP4 genes in the heart of 11.5 days of embryos in gestational diabetes mellitus group and control group.

**Conclusion:** Gestational diabetes mellitus had no effect on the expression of BMP2 and BMP4 genes in the development of the embryos heart.

**Keywords:** Gestational diabetes mellitus, Heart development, BMP2 gene, BMP4 gene, Mouse

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