Introduction

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The incidence of diabetes mellitus with pregnancy is increased nowadays. Diabetes mellitus with pregnancy increases the prenatal mortality rate to 4 -10 % and increases the maternal mortality rate to 10 times as normal (Cousins,1987).

Diabetes mellitus causes many effects on the pregnancy either on the mother or the fetus. On the fetus diabetes mellitus may cause abortions, intra-uterine growth retardation up to intra-uterine fetal death, congenital fetal malformation, early neonatal death, or macrosomia. On the mother diabetes mellitus may cause hydramnios, pyelonephritis and other urinary tract disorders, accidental haemorrhage or pruritus vulvae especially moniliasis (Garner,1995b).

Poly-hydramnios is one of the commonest complication of gestational diabetes which occurs in approximately 15% of pregnant women suffering from Gestational diabetes mellitus (Golan *et al.*, 1993)

There are many causes of hydramnios rather than diabetes mellitus as oesophageal and duodenal atresia of the fetus, tracheo- oesophageal fistula of the fetus, anencephaly, spina-bifida, cardiovascular, urinary tract and musculo-skeletal dysplasia of the fetus, large placenta.

There are many effects of hydramnios on pregnancy either on the mother or the fetus.

On the mother, hydramnios may cause pregnancy induced hypertention, accidental hemorrhage after rupture of membrane, pressure symptoms, chest tightness, oedema of the lower limb and atonic

postpartum hemorrhage. On the foetus, cord prolapse during labour, premature rapture of membrane, malpresentation, unengagement of the head, prematurity and increase the prenatal mortality rate up to 50 %.

There are many theories to explain the pathogenesis of hydramnios with pregnancy as impaired swallowing of the fetus and increased transudation of fluid from the exposed meninges into the amniotic cavity in spina – bifida (Cunningham *et al.*, 1997).

In cases of diabetes mellitus with pregnancy, the most accepted theory of hydramnios with diabetes is that maternal hyperglacaemia causes fetal hyperglycaemia with resulting fetal osmotic diuresis into the amniotic fluid compartment. However the evidence to support this theory has not been identified (Brace and Resnick 1999).

AIM OF WORK

The aim of this work is to evaluate the relationship between the amniotic fluid glucose concentration and amniotic fluid volume in pregnancies complicated by diabetes and to compare it with that seen in normal pregnancies and diabetic pregnant not complicated by polyhydramnios.