Darren Elphinstone

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1.

Fertil Steril. 1992 Mar;57(3):573-7.

Cyclic changes in the concentration of glucose and fructose in human cervical mucus.

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Abstract

OBJECTIVE:

To determine a possible cyclic change in the concentration of glucose and fructose in the aqueous phase of human cervical mucus (CM).

DESIGN:

Concentrations of glucose and fructose were longitudinally determined in the aqueous phase of CM of normal cycling women using enzymatic techniques, modified for small quantities.

SETTING:

Patients visiting a fertility clinic were selected.

PATIENTS:

Nine healthy women with regular menstrual cycles of 28 +/- 3 days that appeared to be ovulatory, demonstrated by sonographic follicle immaging and serum progesterone (P) measurements.

INTERVENTIONS:

Cervical mucus samples were longitudinally collected preovulatory, postovulatory, and premenstrual in ovulatory cycles, monitored by ultrasound and blood estradiol and P measurements.

MAIN OUTCOME MEASURES:

The study was designed to measure glucose and fructose longitudinally on three different points during one cycle.

RESULTS:

The preovulatory glucose concentrations in CM were lower than postovulatory and premenstrual. The preovulatory fructose concentrations were lower than premenstrual. The glucose concentration correlated with the blood P level.

CONCLUSION:

There is a consistent change in the glucose concentration measured in human CM in three phases of the menstrual cycle. The preovulatory and premenstrual fructose concentrations differ significantly. Knowledge of the carbohydrate metabolism in human cervical mucus may contribute in illuminating the possible role of the carbohydrate metabolism in sperm migration at midcycle and implantation in the luteal phase.

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