q11.1), but Y with two (DYZ3, Yp11.1-q11.1 and DYZ1, Yq12). Normal karyotype embryos were chosen and transferred on day six at blastocyst stage.

In the first couple, three of six biopsied embryos were normal. Two normal blastocysts were transferred but failed to achieve a pregnancy. In the second couple, three of six biopsied embryos were normal. Two blastocysts were transferred, resulting in a successful pregnancy. A normal male infant was born at 39 weeks' gestation. The rest of the nonreplaced embryos showed mosaic or der(15).

"In our work the normal birth suggested that PGD is a worthy screen method for these carriers, not only to treat their infertility, but also to break these translocations to inherit to their offspring," concluded Chen et al.

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Human FF
Many Simple Carbohydrates Besides Glucose are Present

There are a number of simple carbohydrates other than glucose that are found in human preovulatory follicular fluid (FF), state researchers in the United States and Poland.

The chemical makeup of extracellular fluid in Graafian follicles is significant because this fluid bathes the developing oocytes and is indicative of the secretory action and metabolism of granulosa cells (Edwards, 1974; McNatty, 1981). Glucose is the primary energy substrate in human cells and, therefore, metabolism of this monosaccharide in somatic cells has been examined extensively. However, other monosaccharides should be present in FF, revealing the composition of plasma. Initial studies discovered a five-carbon sugar ribulose-containing compound in human FF (Hayashi et al., 1973; Amano et al., 1974). More recent research reported glucose and fructose levels in preovulatory FFs of patients undergoing ovarian stimulation for in vitro fertilization (Sucha et al., 2002).

Based on the above findings, Maciej Jozwik and colleagues examined sugar and polyol levels in preovulatory ovarian FF with those in circulation ("Concentrations of Monosaccharides and their Amino and Alcohol Derivatives in Human Preovulatory Follicular Fluid," Molecular Human Reproduction, 2007;13(11):791-196). "This study supports a substantial utilization of glucose by the oocyte/granulosa cells complex, and documents a significant concentration gradient from plasma to FF for glycerol, mannose, galactose and galactosamine," stated Jozwik et al.

Jozwik et al. obtained FF and peripheral venous blood samples from 14 women in an IVF program. The main outcome measures were high performance liquid chromatography measurements of seven polyols, two aminohexoses, and four hexoses.

Glucose levels in FF and plasma were 2,781.26±205.64 and 4,431.25±65.17 μM, respectively (P<0.001). The level of mannose in FF was 38.99±38.99±3.33 μM, which was significantly less than the plasma level (55.38±2.29 μM; P<0.001). A concentration gradient from plasma to FF was significant for glycerol (99.41±8.47 vs. 74.32±6.54 μM; P<0.002), galactose (31.69±1.58 vs. 26.73±1.93 μM; P<0.01), and galactosamine (11.49±0.69 vs. 6.38±0.59 μM; P<0.001).

The plasma-to-FF level variation was highest for glucose (1,649.99±204.09 μM). There was a significant link between plasma and FF levels for galactose and glycerol.

"All in all, the present study demonstrates that many simple carbohydrates other than glucose are present in the human preovulatory FF," stated the authors. "Our data support the hypothesis of utilization across the follicle's wall of many carbohydrate compounds necessary for the synthesis of basic structural cellular elements."

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