

Journal of Andrology, Vol 21, Issue 5 636-640, Copyright © 2000 by The American Society of Andrology

JOURNAL ARTICLE

Seminal plasma glycodelin and fertilization in vitro

H. Koistinen, R. Koistinen, C. Hyden-Granskog, O. Magnus and M. Seppala
Department of Obstetrics and Gynecology, Helsinki University Central Hospital, Finland.

Endometrium-derived glycodelin-A inhibits sperm-egg binding, whereas differentially glycosylated seminal plasma glycodelin-S does not. The difference has been ascribed to the specific type of glycosylation of glycodelin-A. We studied whether the total glycodelin concentration or the relative glycodelin-A concentration in seminal plasma are related to the in vitro fertilization rate of oocytes. We found that total glycodelin levels were significantly higher in a quartile of men with the lowest in vitro fertilization rate compared with the remaining 3 quartiles combined ($P = .01$). However, for predicting low fertilization capacity of sperm, combining the glycodelin and sperm concentrations by logistic regression analysis did not significantly increase the information obtained from sperm concentration alone. We used specific lectin-immunoassays to determine whether increased glycodelin-A-type glycosylation in seminal plasma would be related to failure to fertilize. No difference was found between the groups with high fertilization and no fertilization in vitro. It is concluded that, although high seminal plasma total glycodelin level has a tendency of being associated with a lower fertilization rate, the difference has limited value to predict fertilization in vitro.

This article has been cited by other articles:



HUMAN REPRODUCTION UPDATE

[▶ HOME](#)

M. Seppala, H. Koistinen, R. Koistinen, P.C.N. Chiu, and W.S.B. Yeung
Glycosylation related actions of glycodelin: gamete, cumulus cell, immune cell and clinical associations

Hum. Reprod. Update, May 1, 2007; 13(3): 275 - 287.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



GLYCOBIOLOGY

[▶ HOME](#)

K. Lapid and N. Sharon
Meet the multifunctional and sexy glycoforms of glycodelin
Glycobiology, March 1, 2006; 16(3): 39R - 45R.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)

This Article

- ▶ [Full Text \(PDF\)](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

Services

- ▶ [Similar articles in this journal](#)
- ▶ [Similar articles in PubMed](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

Citing Articles

- ▶ [Citing Articles via HighWire](#)
- ▶ [Citing Articles via Google Scholar](#)

Google Scholar

- ▶ [Articles by Koistinen, H.](#)
- ▶ [Articles by Seppala, M.](#)
- ▶ [Search for Related Content](#)

PubMed

- ▶ [PubMed Citation](#)
- ▶ [Articles by Koistinen, H.](#)
- ▶ [Articles by Seppala, M.](#)



JBC Online

▶ HOME

P. C. N. Chiu, M.-K. Chung, H.-Y. Tsang, R. Koistinen, H. Koistinen, M. Seppala, K.-F. Lee, and W. S.B. Yeung
Glycodelin-S in Human Seminal Plasma Reduces Cholesterol Efflux and Inhibits Capacitation of Spermatozoa
J. Biol. Chem., July 8, 2005; 280(27): 25580 - 25589.
[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



ENDOCRINE REVIEWS

▶ HOME

M. Seppala, R. N. Taylor, H. Koistinen, R. Koistinen, and E. Milgrom
Glycodelin: A Major Lipocalin Protein of the Reproductive Axis with Diverse Actions in Cell Recognition and Differentiation
Endocr. Rev., August 1, 2002; 23(4): 401 - 430.
[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



BIOLOGY of REPRODUCTION

▶ HOME

H. Koistinen, T. Soini, J. Leinonen, C. Hyden-Granskog, J. Salo, M. Halttunen, U.-H. Stenman, M. Seppala, and R. Koistinen
Monoclonal Antibodies, Immunofluorometric Assay, and Detection of Human Semenogelin in Male Reproductive Tract: No Association with In Vitro Fertilizing Capacity of Sperm
Biol Reprod, March 1, 2002; 66(3): 624 - 628.
[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)

[HOME](#) [HELP](#) [FEEDBACK](#) [SUBSCRIPTIONS](#) [ARCHIVE](#) [SEARCH](#) [TABLE OF CONTENTS](#)

[Copyright © 2000 by The American Society of Andrology.](#)