Your abstract submission has been received

You have submitted the following abstract to the ASRM 2023 Scientific Congress & Expo. Receipt of this notice does not guarantee that your submission was complete or free of errors.

ELEVATED SPERM DNA FRAGMENTATION IS NOT CORRELATED WITH EMBRIONIC MOSAICISM IN PATIENTS UNDERGOING IVF WITH PGT-A

Tamar Alkon-Meadows, M.D.1, Carlos Hernandez-Nieto, MD1, Joseph Lee, BA1, Richard E. Slifkin, B.A.1, Natan Bar-Chama, M.D.1, Martha Luna Rojas, M.D.2, Alan B Copperman, M.D.3 and Erkan Buyuk, M.D.1, (1)Reproductive Medicine Associates of New York, New York, NY, (2)RMA of New York, International Mexico, SC, Ciudad De Mexico, Lomas De Bezares, Mexico, (3)Icahn School of Medicine at Mount Sinai/Reproductive Medicine Associates of New York, New York, NY

Title:
ELEVATED SPERM DNA FRAGMENTATION IS NOT CORRELATED WITH EMBRIONIC MOSAICISM IN PATIENTS UNDERGOING IVF WITH PGT-A

Submitter's E-mail Address:
talkon@rmany.com

Preferred Presentation Type:
Oral or Poster

Study Type:
Retrospective Cohort Study (includes comparator groups)

Category - Subcategory(ies):
Genetics: PGT

Funding:
None

* Submission of an abstract for consideration for presentation implies that the presenting author & associated co-authors have legal and ethical rights to submit and present this work. Plagiarism and submitting work that an author has no rights to, will result in an investigation and penalty.

* I verify that I am in compliance with HIPAA standards to protect the privacy of the patients discussed in my presentation(s). I either have received written authorization from the patient, have removed any identifiable images or patient records from my presentation, or my presentation does not pertain to patient treatment.

Permissions - Prior Publication or Presentation
This abstract contains original work, not published or presented previously at a meeting of another national or international scientific organization prior to this meeting and has not been submitted for publication at the time of this submission.

ACCME Disclosure
Nothing to disclose. No off-label or otherwise non-approved product use.

Did this abstract require approval by a local Institutional Review Board (IRB) or equivalent?
This abstract has been approved by a local Institutional Review Board (IRB) or equivalent.

This data will be submitted for separate scientific abstract and video presentations. The two presentations are NOT identical.
Agree

Applying for an award
Trainee: No

Abstract Category:
Abstract Text:

OBJECTIVE:

Elevated sperm DNA fragmentation (SDF) has been postulated to impair in-vitro fertilization (IVF) outcomes. High index of sperm DNA fragmentation could be a surrogate marker for aneuploidy in the sperm, potentially influencing embryo development. However, the contribution of sperm to embryonic mosaicism has been underrecognized, as it is commonly understood that the paternal effect on the embryonic genome is restricted to the post-zygotic stage. The objective of this study is to examine the correlation between indices measuring sperm DNA fragmentation and embryonic mosaicism rate in a diverse population of infertile couples undergoing IVF with preimplantation genetic testing for aneuploidy (PGT-A).

MATERIALS AND METHODS:

This retrospective study included all couples undergoing IVF/PGT-A in which Sperm DNA fragmentation Index (DFI) was analyzed from 2019 to 2023. Patients were divided into 2 groups (Group A: elevated DFI (≥30%); Group B: normal DFI (30%)). Patients who had surgical sperm extraction, frozen/thawed semen samples, and patients harboring chromosomal rearrangements were excluded from the analysis. Primary outcome was embryo mosaicism status; secondary outcome included the level of mosaicism. Embryos were classified as low-level mosaic if the trophectoderm (TE) biopsy result contained 20-40% mosaicism and high-level mosaic with 41-80%. Demographic characteristics, cycle characteristics and embryologic data were collected. Student’s t-test, chi-square test, and multivariate logistic regression with a GEE model were used for data analysis.

RESULTS:

A total of 521 blastocysts derived from 119 IVF/PGT-A cycles were analyzed. Group A consisted of 56 cases (n= 212 embryos); Group B of 63 cases (n= 309 embryos). Significant differences were found among male patient ages (Group A 40.1 ±2, Group B 38.3±5, p=0.02) and normal male semen analysis (Group A 35.2%, Group B 57%, p= 0.005). Other stimulation and demographic parameters were comparable between cohorts. While no differences were found in fertilization and blastulation rates between study groups, patients with elevated DFI had fewer blastocysts for biopsy than their counterparts (3.7±2, 4.9±1, p=0.004). Embryonic mosaicism rates were comparable between the two populations (1.4 %(n=31/212), 1.2 %(n=38/309), p=0.34). However, patients in Group A had on average more high-level mosaic embryos than patients in Group B (65.5%,55.7%, p= 0.04). After adjusting for male patient’s age, normal semen analysis and number of biopsied embryos, there was no association with elevated DFI and higher odds of embryonic mosaicism (OR 1.09, CI95% 0.9-2).

CONCLUSIONS:

The rate of mosaicism in high DFI was comparable to controls. These results suggest that the occurrence of mitotic errors involved in mosaicism are not influenced by sperm DNA fragmentation.

IMPACT STATEMENT:

Sperm DNA damage does not appear to influence embryonic mitotic origin aneuploidies.

First Presenting Author

Presenting Author

Tamar Alkon-Meadows, M.D.

Email: talkon@rmany.com -- Will not be published

Reproductive Medicine Associates of New York
635 Madison Ave 10th Fl
New York NY 10022-1009
USA
Within the past 2 years, have you or your spouse/partner had any potential COI?
No - disclosing all COI
Signature: Tamar Alkon -M
- 2022-02-15 19:09:44

CV Upload:
[File: Tamar Alkon CV 3.docx]

Second Author

Carlos Hernandez-Nieto, MD
Email: chernandez@rmany.com -- Will not be published

Reproductive Medicine Associates of New York
635 Madison Ave 10th Fl
New York NY 10022-1009
USA

Within the past 2 years, have you or your spouse/partner had any potential COI?
No - disclosing all COI
Signature: Carlos Hernandez Nieto
- 2022-02-15 19:09:44

CV Upload:
[File: CHN CV Apr23.docx]

Third Author

Joseph Lee, BA
Email: jlee@rmaofny.com -- Will not be published
Reproductive Medicine Associates of New York
635 Madison Ave 10th Fl
New York NY 10022-1009
USA

Within the past 2 years, have you or your spouse/partner had any potential COI?
No - disclosing all COI
Signature: Joseph Adam Lee
- 2022-02-15 19:09:44

CV Upload:

Fourth Author

Richard E. Slifkin, B.A.
Email: rslifkin@rmany.com -- Will not be published

Reproductive Medicine Associates of New York
635 Madison Ave 10th Fl
New York NY 10022-1009
USA

Biographical Sketch Richard Slifkin, TS(ABB), CLT(NYS) currently serves as the Clinical Embryology Associate Laboratory Director at Reproductive Medicine Associates of New York (RMA of New York). Mr. Slifkin graduated with a Bachelor’s degree in Biology from New York University in 2006 and began his career in embryology that same year. Mr Slifkin has worked at RMA of New York in many capacities, first as an assistant in the embryology laboratory before training in embryology, then as a supervisor, and now as Associate Director. During that time, Mr. Slifkin helped transition RMA of New York from day 3 biopsies to trophectoderm biopsies and now performs thousands of trophectoderm biopsies each year. He enjoys training the next generation of embryologists and has a dedication to optimizing lab operations. Mr. Slifkin holds a Technical Supervisor certification (TS) from the American Board of Bioanalysis and a Clinical Laboratory Technologist License (CLT) from New York State. In addition to his clinical work, Mr. Slifkin has coauthored multiple peer-reviewed scientific manuscripts and dozens of abstracts in the pursuit of increasing
the success of assisted reproductive technologies (ART). He has presented numerous
times at the annual American Society for Reproductive Medicine (ASRM) conference and is
a member of ASRM, the Society of Reproductive Biologists and Technologists (SRBT), the
American Association of Bioanalysts (AAB), and the New York Metropolitan Embryology
Society (NYMES).

Within the past 2 years, have you or your spouse/partner had any potential COI?
No - disclosing all COI
Signature: Richard Slifkin
- 2022-02-15 19:09:44

Fifth Author

Natan Bar-Chama, M.D.
Email: nbarchama@gmail.com -- Will not be published

Reproductive Medicine Associates of New York
635 Madison Ave
Fl 10
New York NY 10022-1009
USA

Within the past 2 years, have you or your spouse/partner had any potential COI?
No - disclosing all COI
Signature: Natan Bar-Chama
- 2022-02-15 19:09:44
Sixth Author

Martha Luna Rojas, M.D.
Email: mluna@rmany.com -- Will not be published

RMA of New York, International Mexico, SC
Prolongacion Paseo de la Reforma #2693
Torre B - Piso 10
Ciudad De Mexico Lomas De Bezares 11910
Mexico

Within the past 2 years, have you or your spouse/partner had any potential COI?
No - disclosing all COI
Signature: Martha Luna Rojas
- 2022-02-15 19:09:44
CV Upload:

CV Martha Luna English .docx

Seventh Author

Alan B Copperman, M.D.
Email: acopperman@rmany.com -- Will not be published

Icahn School of Medicine at Mount Sinai/Reproductive Medicine Associates of New York
Department of Obstetrics, Gynecology, and Reproductive Science
New York NY
USA

Within the past 2 years, have you or your spouse/partner had any potential COI?
No - disclosing all COI
Signature: Alan B Copperman
- 2022-02-15 19:09:44

Eighth Author

Erkan Buyuk, M.D.
Email: ebuyuk@rmaofny.com -- Will not be published

Reproductive Medicine Associates of New York
635 Madison Ave Fl 10
New York NY 10022-1009
USA

Within the past 2 years, have you or your spouse/partner had any potential COI?
No - disclosing all COI
Signature: Erkan Buyuk, M.D.
- 2022-02-15 19:09:44

If necessary, you can make changes to your abstract submission until Thursday, April 27, 2023 at 5:00 pm (EDT).

To access your submission in the future, use the link to your user portal from one of the automatic confirmation emails that were sent to you during the submission.

Or point your browser to https://asrm.confex.com/asrm/2023/gateway.cgi

You will be prompted to login with your ASRM account prior to accessing the user portal. If you do not yet have an ASRM account, the screen will redirect you to the site where you can register for a new account.

When registering for a new ASRM account:

- Please use the email address that is associated with the submission and your first and last name as they appear on the submission when creating this account.
- An ASRM account for login must be completed before you can access the user portal.

Any changes that you make will be reflected instantly in what is seen by the reviewers. You DO NOT need to go through all of the submission steps in order to change one thing. If you want to change the title, for example, just click "Title" in the abstract control panel and submit the new title.

When you have completed your submission, you may close this browser window.

If you would like to submit another abstract, click here.

Tell us what you think of the abstract submission process

Home Page