



## EAA Literature Alert Edition March 2021

This is the first issue of our new library service to the EAA members. We shall inform you occasionally about good publications of relevance for andrologists – both, clinicians and basic scientists. Recent publications from the EAA Training Centres will be especially highlighted. If you want to inform EAA members about an important new publication, send a note to the [EAA Secretary](#).

### Clinical andrology and epidemiology



The second paper from the EAA multicentre ultrasound study has been finally published! The results are helpful to better understand male reproductive pathophysiology.

Lotti F, Frizza F, Balercia G, Barbonetti A, Behre HM, Calogero AE, Cremers JF, Francavilla F, Isidori AM, Kliesch S, La Vignera S, Lenzi A, Marcou M, Pilatz A, Poolamets O, Punab M, Peraza Godoy MF, Rajmil O, Salvio G, Shaeer O, Weidner W, Maseroli E, Cipriani S, Baldi E, Degl'Innocenti S, Danza G, Calдини AL, Terreni A, Boni L, Krausz C, Maggi M. The European Academy of Andrology (EAA) ultrasound study on healthy, fertile men: Scrotal ultrasound reference ranges and associations with clinical, seminal, and biochemical characteristics. *Andrology*. 2021 Mar;9(2):559-576. PMID: 33244893.

<https://doi.org/10.1111/andr.12951>



Lower serum testosterone is independently associated with higher all-cause and cancer-related, but not CVD-related, mortality in middle-aged to older men. Lower SHBG is independently associated with lower all-cause, CVD-related, and cancer-related mortality.

Yeap BB, Marriott RJ, Antonio L, Chan YX, Raj S, Dwivedi G, Reid CM, Anawalt BD, Bhasin S, Dobs AS, Hankey GJ, Matsumoto AM, Norman PE, O'Neill TW, Ohlsson C, Orwoll ES, Vanderschueren D, Wittert GA, Wu FCW, Murray K. Serum Testosterone is Inversely and Sex Hormone-binding Globulin is Directly Associated with All-cause Mortality in Men. *J Clin Endocrinol Metab*. 2021 Jan 23;106(2):e625-e637. PMID: 33059368.

<https://pubmed.ncbi.nlm.nih.gov/33059368/>



SARS-CoV-2 infection is associated with secondary hypogonadism, with lower testosterone levels predicting the most severe clinical outcomes.

Salonia A, Pontillo M, Capogrosso P, Gregori S, Tassara M, Boeri L, Carenci C, Abbate C, Cignoli D, Maria Ferrara A, Cazzaniga W, Rowe I, Ramirez GA, Tresoldi C, Mushtaq J, Locatelli M, Santoleri L, Castagna A, Zangrillo A, De Cobelli F, Tresoldi M, Landoni G, Rovere-Querini P, Ciceri F, Montorsi F. Severely low testosterone in males with COVID-19: a case-control study. *Andrology*. 2021 PMID: 33635589.

<https://onlinelibrary.wiley.com/doi/10.1111/andr.12993>



One-quarter of men who recovered from COVID-19 demonstrated oligo-crypto-azoospermia. An assessment of semen quality should be recommended for COVID-19 survivors of reproductive age.

Gacci M, Coppi M, Baldi E, Sebastianelli A, Zaccaro C, Morselli S, Pecoraro A, Manera A, Nicoletti R, Liaci A, Bisegna C, Gemma L, Giancane S, Pollini S, Antonelli A, Lagi F, Marchiani S, Dabizzi S, Degl'Innocenti S, Annunziato F, Maggi M, Vignozzi L, Bartoloni A, Rossolini GM, Serni S. Semen impairment and occurrence of SARS-CoV-2 virus in semen after recovery from COVID-19. *Hum Reprod.* 2021 Feb 1:deab026. doi: 10.1093/humrep/deab026. Epub ahead of print. PMID: 33522572.

<https://pubmed.ncbi.nlm.nih.gov/33522572/>



Avoiding inflammatory and hyper-insulinemic dietary patterns may be beneficial for the prevention of clinically relevant prostate cancer, especially among younger men.

Fu BC, Tabung FK, Pernar CH, Wang W, Gonzalez-Feliciano AG, Chowdhury-Paulino IM, Clinton SK, Folefac E, Song M, Kibel AS, Giovannucci EL, Mucci LA. Insulinemic and Inflammatory Dietary Patterns and Risk of Prostate Cancer. *Eur Urol.* 2021 Mar;79(3):405-412. PMID: 33422354.

<https://www.sciencedirect.com/science/article/abs/pii/S0302283820310162?via%3Dihub>



Infertile men have higher PSA values than fertile individuals. One-third of primary infertile men younger than 40 yr have a first total PSA value of >1 ng/ml.

Boeri L, Capogrosso P, Cazzaniga W, Ventimiglia E, Pozzi E, Belladelli F, Schifano N, Candela L, Alfano M, Pederzoli F, Abbate C, Montanari E, Valsecchi L, Papaleo E, Viganò P, Rovere-Querini P, Montorsi F, Salonia A. Infertile Men Have Higher Prostate-specific Antigen Values than Fertile Individuals of Comparable Age. *Eur Urol.* 2021 Feb;79(2):234-240. PMID: 32814638.

<https://www.sciencedirect.com/science/article/abs/pii/S0302283820306151?via%3Dihub>

Commentary by M. Gul and Ege C. Cerefoğlu:

<https://www.sciencedirect.com/science/article/abs/pii/S0302283820306965>



The success rate of repeat microTESE procedures in patients with NOA strongly depends on adequate surgical dissection.

Özman O, Tosun S, Bayazit N, Cengiz S, Bakırcıoğlu ME. Efficacy of the second micro-testicular sperm extraction after failed first micro-testicular sperm extraction in men with nonobstructive azoospermia. *Fertil Steril.* 2020 Dec 23:S0015-0282(20)32514-0. PMID: 33358250.

[https://www.fertstert.org/article/S0015-0282\(20\)32514-0/fulltext](https://www.fertstert.org/article/S0015-0282(20)32514-0/fulltext)

Commentary by Peter N. Schlegel: <https://doi.org/10.1016/j.fertnstert.2021.01.052>

## Basic and translational andrology

nature

A promising step into a non-hormonal “pill” for men! Tryptonide works well in male mice and monkeys by inducing reversible sperm deformation and male infertility.

Chang Z, Qin W, Zheng H, Schegg K, Han L, Liu X, Wang Y, Wang Z, McSwiggin H, Peng H, Yuan S, Wu J, Wang Y, Zhu S, Jiang Y, Njie H, Tang Y, Zhou Y, Hitchcock MJM, Tang Y, Yan W. Tryptonide is a reversible non-hormonal male contraceptive agent in mice and non-human primates. *Nat Commun.* 2021 Feb 23;12(1):1253. PMID: 33623031.

<https://www.nature.com/articles/s41467-021-21517-5>

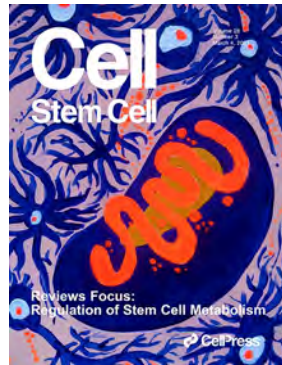
Press release: [https://www.eurekalert.org/pub\\_releases/2021-03/tli-nnc030321.php](https://www.eurekalert.org/pub_releases/2021-03/tli-nnc030321.php)



Novel data on the ontogeny and inflammatory response of macrophage population in the epididymis and testis (in a mouse model).

Wang M, Yang Y, Cansever D, Wang Y, Kantores C, Messiaen S, Moison D, Livera G, Chakarov S, Weinberger T, Stremmel C, Fijak M, Klein B, Pleuger C, Lian Z, Ma W, Liu Q, Klee K, Händler K, Ulas T, Schlitzer A, Schultze JL, Becher B, Greter M, Liu Z, Ginhoux F, Epelman S, Schulz C, Meinhardt A, Bhushan S. Two populations of self-maintaining monocyte-independent macrophages exist in adult epididymis and testis. *Proc Natl Acad Sci U S A*. 2021 Jan 5;118(1):e2013686117. PMID: 33372158.

<https://www.pnas.org/content/118/1/e2013686117.long>



New transcriptional cell atlas of the human testes, showing that around 14 weeks of gestation, following somatic niche specification, fetal primordial germ cells begin to transition to a cell state highly similar to postnatal spermatogonial stem cells.

Guo J, Sosa E, Chitiashvili T, Nie X, Rojas EJ, Oliver E; DonorConnect, Plath K, Hotaling JM, Stukenborg JB, Clark AT, Cairns BR. Single-cell analysis of the developing human testis reveals somatic niche cell specification and fetal germline stem cell establishment. *Cell Stem Cell*. 2021 Jan 8;S1934-5909(20)30588-9. PMID: 33453151.

<https://www.sciencedirect.com/science/article/abs/pii/S1934590920305889?via%3Dihub>



Progesterone-induced  $[Ca^{2+}]_i$  oscillations in human sperm are generated through CatSper channels and their absence is associated with failed fertilisation at IVF.

Torrezan-Nitao E, Brown SG, Mata-Martínez E, Treviño CL, Barratt C, Publicover S.  $[Ca^{2+}]_i$  oscillations in human sperm are triggered in the flagellum by membrane potential-sensitive activity of CatSper. *Hum Reprod*. 2021 Jan 25;36(2):293-304. PMID: 33305795.

<https://academic.oup.com/humrep/article/36/2/293/6030871>



A proteomics study identified a wide range of germ cell-derived and sperm-specific proteins (including cancer-testis antigens) that are selectively deposited by the Sertoli cells into testicular interstitial fluid.

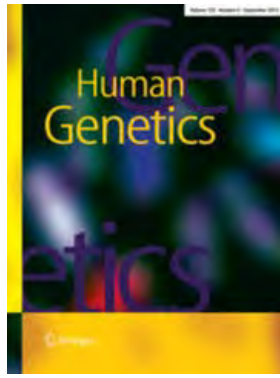
O'Donnell L, Rebourcet D, Dagley LF, Sgaier R, Infusini G, O'Shaughnessy PJ, Chalmel F, Fietz D, Weidner W, Legrand JMD, Hobbs RM, McLachlan RI, Webb AJ, Pilatz A, Diemer T, Smith LB, Stanton PG. Sperm proteins and cancer-testis antigens are released by the seminiferous tubules in mice and men. *FASEB J*. 2021 Mar;35(3):e21397. PMID: 33565176.

<https://faseb.onlinelibrary.wiley.com/doi/10.1096/fj.202002484R>

## Androgenetics

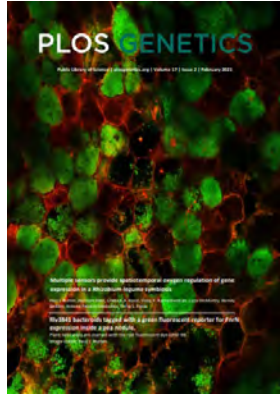
Special issue on Molecular Genetics of Male Infertility, edited by Csilla Krausz.

Essential reading for everyone doing genetic diagnostics of male infertility and basic studies on molecular aspects of germ cell biology. This special issue contains 13 papers.



The list of papers:  
<https://link.springer.com/journal/439/volumes-and-issues/140-1>

Editorial written by Csilla Krausz: <https://link.springer.com/article/10.1007/s00439-020-02245-0>



Identification of outer dynein defects arms in dysmotile sperm of males with various mutations in axonemal dynein preassembly (DNAAF2/ KTU, DNAAF4/ DYX1C1, DNAAF6/ PIH1D3, DNAAF7/ZMYND10, CFAP300/C11orf70, LRRC6).

Aprea I, Raidt J, Höben IM, Loges NT, Nöthe-Menzen T, Pennekamp P, Olbrich H, Kaiser T, Biebach L, Tüttelmann F, Horvath J, Schubert M, Krallmann C, Kliesch S, Omer H. Defects in the cytoplasmic assembly of axonemal dynein arms cause morphological abnormalities and dysmotility in sperm cells leading to male infertility. *PLoS Genet.* 2021 Feb 26;17(2):e1009306. PMID: 33635866.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7909641/>

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