

EAA Andrology Training Center
History of the Centre

2019



Division of Andrology and Endocrinology, Teaching Hospital “Policlinico-Vittorio Emanuele”, Department of Clinical and Experimental Medicine, University of Catania, Via S. Sofia 78, Building 4, 95123 Catania, Italy. Tel: +39-95-3782641; +39-95-3782311; Fax: +39-95-3781180; E-mail: acaloger@unict.it; andrologia.endocrinologia@policlinico.unict.it

History of Centre

The University of Catania Medical School founded the Andrology Center in 1982.

The need for an excellence in clinical and research center was due to the increase in the prevalence of andrological and sexological diseases since, at that time, there was no University Center in the whole Sicily and in the southern regions of Italy.

The Centre is equipped with a clinical unit for the management of andrological and endocrinological diseases, a laboratory for semen analysis, molecular biology and flow cytometric analysis and sperm banking. To meet the needs of patients with andrological diseases and couple infertility, the Centre collaborates with public and private IVF Centers and many Divisions of the same teaching hospital of the University of Catania where it is located.

The Andrology Center is a reference point for all patients in Sicily and Calabria being the only one south of Naples accredited by the European Academy of Andrology since 2006.

EAA Andrology Training Centre
Centre Report

2019

CENTRE REPORT

Name and address of Centre

Division of Andrology and Endocrinology, Teaching Hospital "Policlinico-Vittorio Emanuele", Department of Clinical and Experimental Medicine, University of Catania, Via S. Sofia 78, Building 4, 95123 Catania, Italy. Tel: +39-95-3782641; +39-95-3782311; Fax: +39-95-3781180; E-mail: acaloger@unict.it; andrologia.endocrinologia@policlinico.unict.it

Type of Centre

University
University Hospital
Private Centre

XX

1. Director

Prof. Aldo E. Calogero

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2. Director (if more Institutions in the Centre)

3. Present Staff (*Senior Scientists*)

1) Name Prof. Aldo E. Calogero
Degree MD
Speciality Endocrinology

Academician

Affiliated
Member

Clinical
Andrologist

2) Name Prof. Sandro La Vignera
Degree MD, PhD
Speciality Endocrinology and Ph.D in
Andrology

Academician

Affiliated
Member

Clinical
Andrologist

3) Name Dr. Rosita A. Condorelli
Degree MD
Speciality Endocrinology and Ph.D in
Andrology

Academician

Affiliated
Member

Clinical
Andrologist

4) Name Prof. Salvatore Tumino
Degree MD
Speciality Endocrinology

Academician

Affiliated
Member

Clinical
Andrologist

5) Name Prof. Maurizio Di Mauro
Degree MD
Speciality Diabetology

Academician

Affiliated
MemberClinical
Andrologist**Additional staff****MD/Biologists/Chemists**

1) Name Dr. Nunziata Barone
 Degree Ph.D.
 Speciality Evolutionist Biology
 Full time/part time Full time

Academician Affiliated Member Clinical Andrologist

2) Name Dr. Nunziatina Burrello
 Degree Ph.D.
 Speciality Embriology
 Full time/part time Full time

Academician Affiliated Member Clinical Andrologist **PhD Students**

1) Name Dr. Laura M. Mongioì

Nurses

1) Name Dr. Concetta Costa
 2) Name Dr. Caterina Leone
 3) Name Laura Pappalardo

Laboratory Technician

1) Name Dr. Filippo Giacone

Clinical fellows of the post-graduate School of Endocrinology

- Dr. Ylenia Duca
- Dr. Rossella Cannarella
- Dr. Giovanni Burgio
- Dr. Michele Compagnone
- Dr. Maria Cristina Magagnini
- Dr. Federica Barbagallo
- Dr. Gabriele Costanzo
- Dr. Andrea Crafa

Other professionals with contract

- Dr. Laura Cimino (Endocrinologist)
- Dr. Carmelo D'Urso (Expert in physical activity)
- Dr. Angela Alamo (Fellow in Clinical Biochemistry and Pathology)

For each staff category please specify changes (increased or decreased since last EAA site visit

PhysiciansUnchanged Increased Decreased

Please specify _____

Please specify _____

NursesUnchanged Increased Decreased

One unit

Please specify _____

Please specify _____

Laboratory TechniciansUnchanged Increased Decreased

Please specify _____

Please specify _____

Administrative PersonnelUnchanged Increased Decreased

One unit

Please specify _____

Please specify _____

Overall comment – is personnel staff enough for centers activities?

Yes

No

Further comment

An increase in staff members would be necessary to meet the increasing demands of the center (physicians, biologists, administrative staff)

4. Clinical activities

The main clinical activities of the Division of Andrology are:

- Male infertility
- Other reproductive problems: cryptorchidism, varicocele, sexually transmitted diseases, gonadal toxin exposure (including phytodrugs, heavy metals, anabolizing steroids)
- Diagnosis and treatment of hypogonadism including late-onset hypogonadism
- Erectile dysfunction and other sexual disorders
- Andrological diseases in systemic medical illnesses (diabetes mellitus, metabolic syndrome, obesity, irritable bowel syndrome, etc.)

Clinical diagnostic tests performed within the Division

- Standard sperm analysis (WHO, 2010)
- Didymo-epididymal and transrectal prostate-vesicular ultrasound
- Echo-color Doppler for varicocele;
- Biofunctional sperm parameters (mitochondrial function, apoptosis and chromatin/DNA integrity) by flow cytometry
- Seminal WBC subpopulations by flow cytometry
- Biochemical seminal plasma markers
- Evaluation of SNP FSH β -211 G/T (rs 10835638), FSHR c. -29 G/A (rs 1394205), FSHR c. 2039 A/G (p. Asp680Ser) (rs 6166)
- Evaluation of blood endothelial progenitor cells and endothelial microparticles by

flow cytometry

A. Outpatients: Consultations per year in the last 3 years

	Year 2016	Year 2017	Year 2018
New patients	1601	1635	1626
Controls	3595	3615	3604

Type of patients in the last years (%)	Year 2016	Year 2017	Year 2018
Infertility	420	430	490
Erectile dysfunction	436	454	460
Hypogonadotropic Hypogonadism	60	62	70
Klinefelter	25	20	28
Gynaecomastia	22	25	39
Varicocele	190	200	250
Cryptorchidism	20	18	27
Male sex accessory gland infections	450	470	480
Testicular tumors	22	22	30
Disorders of gender identity	14	17	17
Other (mainly: LUTS-ED, premature ejaculation, LOH, systemic diseases and male infertility, IPP, hemospermia, HPV, CBAVD)	77	74	108

B. Ultrasound (testis, penis, prostate)

	Year 2016	Year 2017	Year 2018
New patients	198	250	300
Controls	202	232	318

C. Andrological surgery procedures

	Year 2016	Year 2017	Year 2018
Testicular biopsies	////	////	////
Varicocele ligation	////	////	////
Prostate biopsies	////	////	////
BPH	////	////	////
Prostate cancer	////	////	////
Vasectomy	////	////	////
Vaso-vasostomy	////	////	////
Other (diagnostic TESA)	////	////	////

5. A. Andrology laboratory activity

	Year 2016	Year 2017	Year 2018
Semen analyses	880	878	854
Sperm antibodies	0	0	0
Seminal markers	40	0	0

5. B. Andrology laboratory activity

Sperm banking donors Yes No

Sperm banking cancer patients Yes No

<i>If yes:</i>			
	Year 2016	Year 2017	Year 2018
Number of samples			

5. C. Hystopathological evaluation of biopsies Yes No

5. D. Reproductive Hormones Assays Yes No
 Samples are sent to the central laboratory

If yes please specify type of assays and number of samples in the last year

Reproductive Hormones Assays

(FSH, LH, testosterone, SHBG, prolactin) – about 1000 samples

5. E. Y chromosome microdeletions according to EAA/EMQN guidelines Yes No

If yes number of tests in the past year

Participation to the EAA quality control scheme? Yes No

If no, specify if available in another lab of the same hospital Yes No

Blood karyotyping Yes No

If no, specify if available in another lab of the same hospital Yes No

Other genetic tests (please specify)

Evaluation of the following SNPs: FSH β -211 G/T (rs 10835638), FSHR c. -29 G/A (rs 1394205), FSHR c. 2039 A/G (p. Asp680Ser) (rs 6166)

CFTR gene mutations and AR polymorphisms in collaboration with the Division of Medical Genetics, University Teaching Hospital “Policlinico-Vittorio-Emanuele”, University of Catania

6. Collaborations with other Clinical Units of the University/Hospital

IVF Unit Yes No

If yes please specify:

IVF Unit, University Teaching Hospital “Policlinico-Vittorio Emanuele”, University of Catania

Urology Clinic Yes No

Endocrine Clinic: the Andrology Center is part of an Endocrine Unit Yes No

Genetics Lab/Unit Yes No

Pediatric Unit Yes No

Central Hospital Laboratory Yes No

Private Centers Yes No

If yes, please specific: U.M.R. HERA, Catania Italy

Other public Centers:

- Prof. Vittorio Calabrese, Department of Chemical Sciences, University of Catania
- Prof. Antonio Basile, Radiology Unit, Teaching Hospital “Policlinico-Vittorio Emanuele”

International collaborations

- None

7. Clinical teaching activity

Clinical and Laboratory diagnostic training program

- Andrology outpatient clinic
- Standard sperm analysis (WHO, 2010)
- Evaluation of some biochemical seminal plasma markers
- Uro-genital tract ultrasound (didymo-epididymis, prostate and seminal vesicles)
- Evaluation of the biofunctional sperm parameters (mitochondrial function, apoptosis and chromatin/DNA integrity) by flow cytometry
- Evaluation of endothelial progenitor cells and endothelial microparticles by flow cytometry
- Evaluation of FSHR and FSH β gene polymorphisms

Duration of training (years):

	Number
A: Trainees in the last five years	5
B: Trainees who passed EAA-ESAU exam for Clinical Andrologist in the last 5 yrs	0
C: Trainees working in the centre preparing to pass the EAA-ESAU examination	0
D: Ph.D. Students	3
E: Medical Students	120
F: Other students: post graduate school of specialty in Endocrinology	7

8. Formal Andrology teaching program Yes No

If yes: specify duration (years/months): Years Months

Andrology is taught to:

1. Students of Catania Medical School, as part of the Endocrine course (Prof. A.E. Calogero; Prof. S. La Vignera);
2. Students of the course in Obstetrics (Prof. A.E. Calogero);

3. physicians of the post-graduate School of specialty in Endocrinology, University of Catania (Prof. A.E. Calogero; Prof. S. La Vignera);
4. Physician of the post-graduate school of specialty in Clinical Biochemistry (Prof. A.E. Calogero; Prof. S. La Vignera);
5. Physician of the post-graduate school of specialty in Neurology (Prof. S. La Vignera).

	Hours of formal teaching per year	Professional training (weeks/months)
Medical Students (n=120)	45	1 week/student
Ph.D. Students	120	11 months/year for 3 years
Post Graduate students	40	11 months/year for 4 years
Trainees	////	////
Other degrees (please specify):		

9. Research activity

- The articles published in journal with impact factor resulting from the research activities of the Andrology Center are listed at the end

Male accessory gland infections (MAGI) and infertility

We have developed several lines of research to better understand the role of MAGI on male infertility:

- *Seminal fluid pro-inflammatory cytokine levels in selected categories of patients with MAGI*
- *Evaluation of the mechanisms through which MAGI cause male infertility*
- *Role of anti-inflammatory/antioxidant compounds on sperm fertilizing ability in patients with MAGI*
- *MAGI and sexual dysfunctions*

Biofunctional sperm parameters and male infertility

We have developed several lines of research to better understand the role of the biofunctional sperm parameters in idiopathic male infertility. This includes the evaluation of mitochondrial membrane potential, degree of chromatin compactness, externalization of phosphatidylserine, late apoptosis, viability, DNA fragmentation, evaluation of leukocyte subpopulation, measurements of mitochondrial superoxide levels and of lipid peroxidation. The main research projects are:

- *Role of biofunctional sperm parameters in idiopathic infertility*
- *Effects of metabolic diseases (diabetes mellitus, obesity, metabolic syndrome etc.) and related oxidative stress on biofunctional sperm parameters and infertility*
- *Varicocele and sperm DNA fragmentation*
- *Environmental pollution and sperm parameters*
- *In vitro studies: effects of nicotine, pollutants and other molecules*
- *Role of antibiotics, anti-inflammatory drugs, and antioxidants on sperm parameters*
- *Relationship between testicular volume and conventional or biofunctional sperm parameters.*

Andrological ultrasonography and its application in several endocrinological and andrological diseases

Didymo-epididymal and transrectal prostate-vesicular ultrasonography have led to different lines of research:

- *Relevance of ultrasound examination in acquired premature ejaculation and MAGI*
-

- *Usefulness of the ultrasound evaluation in patients with human papilloma virus and MAGI*
- *Ultrasound evaluation in patients with diabetes mellitus*

Late-onset hypogonadism and different therapeutical approaches

Impact of FSHR and FSHB gene polymorphisms on male gonadal function

Evaluation of spermatogenic failure genes in patients with abnormal sperm parameters

Evaluation of blood endothelial progenitor cells and endothelial microparticles and andrological diseases

- *Functional characterization of platelets in patients with arterial erectile dysfunction*
- *Endothelial progenitor cells and erectile dysfunction: a brief review on diagnostic significance and summary of our experience*
- *Arterial dysfunction in patients with diabetes mellitus: effects of the treatments with PDE5i*
- *Circulating endothelial progenitor cells and endothelial microparticles in patients with arterial erectile dysfunction and metabolic syndrome*

Impact of thyroid disease on the testicular function

Gene and miRNA differential expression in Klinefelter syndrome

The full list of publications (years 2014 - 2018) are presented at the end of this report.

10. Research funding

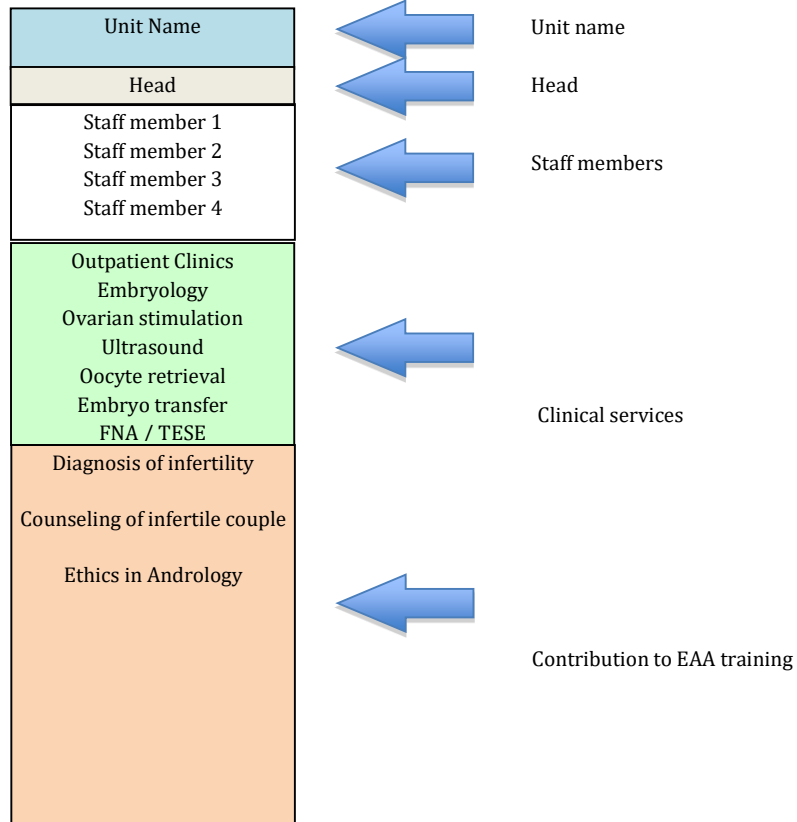
Year	2016
Total amount (€)	41,000.00 euros
Funding Source(s)	Private drug companies
Year	2017
Total amount (€)	66,500.00 euros
Funding Source(s)	Minister of Instruction, University and Research Private drug companies
Year	2018
Total amount (€)	70,574.00 euros
Funding Source(s)	Minister of Instruction, University and Research Private drug companies

Prof. Aldo E. Calogero



ORGANIZATION CHARTS

Organization charts legend: Department / Unit Structure



CENTRE PHOTOS

See Photos in the attached file

**FULL LIST OF PUBLICATIONS (with IF) of staff members from the last 5 years
(2014-2018)**

1. Condorelli R, Calogero AE, Vicari E, Mongioi L, Burgio G, Cannarella R, Giacone F, Iacoviello L, Morgia G, Favilla V, Cimino S, La Vignera S 2014 Reduced seminal concentration of CD45+ cells after follicle-stimulating hormone treatment in selected patients with idiopathic oligoasthenoteratozoospermia. *Int J Endocrinol* 2014;372060. DOI: 10/1155/2014/372060.
2. Salemi M, Fraggetta F, Galia A, Pepe P, Cimino L, Condorelli RA, Calogero AE 2013 Cerebellar degeneration-related autoantigen 1 (CDR1) gene expression in prostate cancer cell lines. *Int J Biol Markers* 29:e288-e290. DOI: 10.5301/jbm.5000062.
3. Condorelli RA, Vicari E, Calogero AE, La Vignera S 2014 Male accessory gland inflammation prevalence in type 2 diabetic patients with symptoms possibly reflecting autonomic neuropathy. *Asian J Androl* 16:761-766. DOI: 10.4103/1008-682X.125911; WOS: 000341847200023. Scopus 2-s2.0-84907012228.
4. Asero P, Calogero AE, Condorelli RA, Mongioi L, Vicari E, Lanzafame F, Crisci R, La Vignera S 2014 Relevance of genetic investigation in male infertility. *J Endocrinol Invest* 37:415-427. DOI:10.1007/s40618-014-0053-1
5. Vicari E, La Vignera S, Castiglione R, Condorelli RA, Vicari LO, Calogero AE 2014 Chronic bacterial prostatitis and irritable bowel syndrome: effectiveness of treatment with rifaximin followed by the probiotic VSL#3. *Asian J Androl* 16:735-739. DOI 10.4103/1008-682X.131064
6. Russo GI, Cimino S, Fragalà E, Privitera S, La Vignera S, Condorelli R, Calogero AE, Castelli T, Favilla V, Morgia G 2014 Insulin resistance is an independent predictor of severe lower urinary tract symptoms and of erectile dysfunction: results from a cross-sectional study. *J Sex Med* 11:2074-2082. DOI 10.1111/jsm.12587.
7. Condorelli RA, Calogero AE, Vicari E, Mongioi L, Favilla V, Morgia G, Cimino S, Russo G, La Vignera S 2014 The gonadal function in obese adolescents: Review. *J Endocrinol Invest* 37:1133-1142.
8. La Vignera S, Condorelli RA, Burgio G, Vicari E, Favilla V, Russo GI, Cimino S, Morgia G, Calogero AE 2014 Functional characterization of platelets in patients with arterial erectile dysfunction. *Andrology* 2:709-715. DOI 10.1111/j.2047-2927.2014.00255x.
9. Russo GI, Cimino S, Fragalà E, Privitera S, La Vignera S, Condorelli R, Calogero AE, Chisari M, Castelli T, Favilla V, Morgia G 2014 Relationship between non-alcoholic fatty liver disease and benign prostatic hyperplasia/lower urinary tract symptoms: new insights from an Italian cross-sectional study. *World J Urol* 33:743-751. DOI: 10.1007/s00345-014-1392-4. WOS: 000353832200019. Scopus 2-s2.0-84928538819
10. Condorelli RA, Calogero AE, Vicari E, La Vignera S 2014 Chronic consumption of alcohol and sperm parameters: our experience and the main evidences. *Andrologia*. 2014 Apr 27. doi: 10.1111/and.12284.

11. Condorelli RA, Calogero AE, Vicari E, Favilla V, Cimino S, Russo GI, Morgia G, La Vignera S 2014 Male accessory gland infection: relevance of serum total testosterone levels. *Int J Endocrinol* 2014:915751.
12. Favilla V, Russo GI, Spitaleri F, Urzi D, Madonia M, La Vignera S, Condorelli R, Calogero AE, Cimino S, Morgia G 2014 Prevalence of intratubular germ cell neoplasia and multifocality in testicular germ cell tumors ≤ 2 cm: relationship with other pathological features. *Clin Genitourin Cancer pii: S1558-7673(14)00114-1*. DOI 10.1016/j.clgc.2014.06.009.
13. Salemi M, Condorelli RA, La Vignera S, Salluzzo MG, Vinci M, Bosco P, Romano C, Campagna C, Romano C, Calogero AE 2014 Expression of phosphodiesterase 4B cAMP-specific gene in subjects with cryptorchidism and Down's syndrome. *J Clin Lab Anal* 30:196-199. DOI: 10.1002/jlca.21835. WOS: 000380032100003. Scopus 2-s2.0-84920089679.
14. La Vignera S, Condorelli RA, Vicari E, Calogero AE 2013 Increased lymphocyte concentration in the semen of patients with reduced testicular volume. *Eur J Inflamm* 11:751-761. WOS: 000329533300018. Scopus 2-s2.0-84893023819.
15. La Vignera S, Condorelli RA, Morgia G, Favilla V, Russo GI, Cimino S, Vicari E, Calogero A 2014 Different levels of CD45pos leukocytes in the semen of patients with low testicular volume. *Int J Immunopathol Pharmacol* 28:85-92. DOI: 10.1177/0394632015572748. Scopus 2-s2.0-84959266506.
16. Basile A, Failla G, La Vignera S, Condorelli RA, Calogero A, Vicari E, Granata A, Mundo E, Caltabiano G, Pizzarelli M, Messina M, Scavone G, Lanzafame F, Iezzi R, Tsetis D 2015 Left spermatic vein retrograde sclerosis: comparison between sclerosant agent injection through a diagnostic catheter versus through an occluding balloon catheter *Radiol Med* 120:483-488. DOI: 10.1007/s11547-014-0478-9. WOS: 000352822000010. Scopus 2-s2.0-84931046905.
17. La Vignera S, Vicari E, Condorelli RA, Franchina C, Scalia G, Morgia G, Perino A, Schillaci R, Calogero AE. 2015 Prevalence of human papilloma virus infection in patients with male accessory gland infection. *Reprod BioMed Online* 30:385-391. DOI: 10.1016/j.rbmo.2014.12.016. WOS: 000351950000010. Scopus 2-s2.0-84926419315.
18. Russo G, Castelli T, Privitera S, Fragalà E, Favilla V, Reale G, Urzi' D, La Vignera S, Condorelli RA, Calogero AE, Cimino S, Morgia G 2015 Increase of Framingham risk score is associated with severity of lower urinary tract symptoms. *BJU Int* 116:791-796. DOI: 10.1111/bju.13053; WOS: 000362574800021. Scopus 2-s2.0-84943588132.
19. Calogero AE, Gullo G, La Vignera S, Condorelli RA, Vaiarelli A 2015 Myoinositol improves sperm parameters and serum reproductive hormones in patients with idiopathic infertility: A prospective double-blind randomized placebo-controlled

- study. *Andrology* 3:491-495. DOI: 10.1111/andr.12025.
20. La Vignera S, Condorelli RA, Vicari E, Favilla V, Morgia G, Calogero AE 2015 Acquired premature ejaculation and male accessory gland infection: relevance of ultrasound examination. *Asian J Androl* Sep 18. doi: 10.4103/1008-682X.155539.
 21. La Vignera S, Condorelli RA, Morgia G, Favilla V, Russo GI, Cimino S, Vicari E, Calogero AE 2015 Different levels of Cd45pos leukocytes in the semen of patients with low testicular volume. *Int J Immunopathol Pharmacol* 28:85-92. DOI: 10.1177/0394632015572748.
 22. Salemi M, Barone N, La Vignera S, Condorelli RA, Recupero D, Galia A, Fraggetta F, Aiello AM, Pepe P, Castiglione R, Vicari E, Calogero AE 2015 Leucin zipper, down regulated in cancer 1 gene expression in prostate cancer. *Oncol Lett* 12:2796-2800. DOI: 10.3892/ol.2016.4983. Scopus 2-s2.0-84983397701. WOS: 000385579200085.
 23. Salemi M, Condorelli RA, Longo G, Bullara V, Romano C, Campagna C, Bosco P, La Vignera S, Calogero AE 2015 LDOC1 gene expression in men with Klinefelter syndrome. *J Clin Lab Anal* 30:408-410. DOI: 10.1002/jcla.21870. WOS: 000386933600008. Scopus 2-s2.0-84989248969
 24. La Vignera S, Condorelli RA, Di Mauro M, Lo Presti D, Mongioì LM, Russo G, Calogero AE 2015 Reproductive function in male patients with type 1 diabetes mellitus. *Andrology* 3:1082-1087. DOI: 10.1111/andr.12097. WOS: 000365400300009. Scopus 2-s2.0-84957440625.
 25. Russo GI, Castelli T, Urzì D, Privitera S, Fragalà E, La Vignera S, Condorelli RA, Calogero AE, Favilla V, Cimino S, Morgia G 2015 Connections between lower urinary tract symptoms related to benign prostatic enlargement and metabolic syndrome with its components: a systematic review and meta-analysis. *Aging Male* 18:207-216. DOI: 10.3109/13685538.2015.1062980. WOS: 000365642000002. Scopus 2-s2.0-84948657139.
 26. Russo GI, Castelli T, Urzì D, Privitera S, La Vignera S, Condorelli RA, Calogero AE, Favilla V, Cimino S, Morgia G 2015 Emerging links between non-neurogenic lower urinary tract symptoms secondary to benign prostatic obstruction, metabolic syndrome and its components: A systematic review. *Int J Urology* 22:982-990. DOI: 10.1111/iju.12877. WOS: 000363873100001. Scopus 2-s2.0-84945462697.
 27. Favilla V, Russo GI, Reale G, Leone S, Castelli T, La Vignera S, Condorelli RA, Calogero AE, Cimino S, Morgia G 2015 Predicting erectile dysfunction in sexually active patients seeking prostate health screening: proposal for a multivariable risk stratification. *Int J Impot Res* 27:201-205. DOI: 10.1038/ijir.2015.15. WOS: 000364603900001. Scopus 2-s2.0-84947032525
 28. La Vignera S, Condorelli RA, Cimino L, Russo GI, Morgia G, Calogero AE 2016 Late-onset hypogonadism: the advantages of treatment with human chorionic

- gonadotropin rather than testosterone. *Aging Male* 19:34-39. DOI: 10.3109/13685538.2015.1092021. WOS: 000372177200006. Scopus 2-s2.0-84944931131.
29. Condorelli RA, Calogero AE, Mongioi L, Vicari E, Russo GI, Lanzafame F, La Vignera S 2016 Varicocele and a concomitant dilation of the periprostatic venous plexus: effects on semen viscosity and sperm parameters. *J Endocrinol Invest* 39:543-547. DOI: 10.1007/s40618-015-0401-9. WOS: 000374102700008. Scopus 2-s2.0-84964344166.
30. La Vignera S, Condorelli RA, Russo GI, Morgia G, Calogero AE 2016 Endocrine control of benign prostatic hyperplasia. *Andrology* 4:404-411. DOI: 10.1111/andr.12186. WOS: 000375881200007. Scopus 2-s2.0-84963946859.
31. Mongioi LM, Calogero AE, Vicari E, Condorelli RA, Russo GI, Privitera S, Morgia G, La Vignera S 2016 The role of carnitine in male infertility. *Andrology* 4:800-807. DOI: 10.1111/andr.12191. Scopus 2-s2.0-84982133080.
32. Vitale SG, Laganà AS, Nigro A, La Rosa VL, Rossetti P, Rapisarda AM, La Vignera S, Condorelli RA, Corrado F, Buscema M, D'Anna R 2016 Peroxisome Proliferator-Activated Receptor Modulation during Metabolic Diseases and Cancers: Master and Minions. *PPAR Res.* 2016:6517313. doi: 10.1155/2016/6517313.
33. Vitale SG, Rossetti P, Corrado F, Rapisarda AM, La Vignera S, Condorelli RA, Valenti G, Sapia F, Laganà AS, Buscema M 2016 How to Achieve High-Quality Oocytes? The Key Role of Myo-Inositol and Melatonin. *Int J Endocrinol.* 2016:4987436. doi: 10.1155/2016/4987436.
34. Condorelli RA, Calogero AE, Mongioi LM, Russo GI, Morgia G, Di Mauro M, La Vignera S 2016 Effects of tadalafil treatment combined with physical activity in patients with low onset hypogonadism: results from a not-randomized single arm phase 2 study. *Aging Male* 19:155-160. Scopus 2-s2.0-84965042800.
35. Condorelli R, Vicari E, Mongioi L, Russo GI, Morgia G, La Vignera S, Calogero AE 2016 Human Papilloma virus infection in patients with male accessory gland infection: usefulness of the ultrasound evaluation. *Int J Endocrinol* 2016. Epub 2016 May 3. Article ID 9174609. DOI: 10.1155/2016/9174609. WOS: 000376085300001. Scopus 2-s2.0-84971237959.
36. Laganà AS, Rossetti P, Buscema M, La Vignera S, Condorelli RA, Gullo G, Granese R, Triolo O 2016 Metabolism and Ovarian Function in PCOS Women: A Therapeutic Approach with Inositols. *Int J Endocrinol.* 2016:6306410. doi: 10.1155/2016/6306410.
37. Laganà AS, Vitale SG, Nigro A, Sofo V, Salmeri FM, Rossetti P, Rapisarda AM, La Vignera S, Condorelli RA, Rizzo G, Buscema M 2016 Pleiotropic Actions of Peroxisome Proliferator-Activated Receptors (PPARs) in Dysregulated Metabolic Homeostasis, Inflammation and Cancer: Current Evidence and Future Perspectives. *Int J Mol Sci* 24;17(7). pii: E999. doi: 10.3390/ijms17070999.
38. Condorelli RA, Calogero AE, La Vignera S 2016 Hyperestrogenism and low serum testosterone-17 β -estradiol ratio are associated with non-bacterial male accessory gland inflammation. *Int J Immunopathol Pharmacol* 29:488-493. DOI:

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