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Professore di Reumatologia e Medicina Interna
Senior Consultant Divisione di Reumatologia Clinica presso il Dipartimento di Medicina Interna e Specialità Mediche (DiMI) dell'Università di Genova (UNIGE)
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ISTRUZIONE E FORMAZIONE

1978 Laurea in Medicina e Chirurgia

Tesi: "Pathophysiology of Vasculitis" (published)
110/110 with honors University of Naples - Naples - IT

1982 Specializzazione in Reumatologia

Tesi: "Rheumatoid arthritis"
50/50 with honors University of Genova - Genova - IT

1982-1983/1986-1987 Ouside Resident presso la New York University

Division of Rheumatology Bellevue Hospital New York University New York USA. Vincitore di un Educational **fellowship bursary/Grant** della Italian Society for Rheumatology (SIR)

1987 Specializzazione in Medicina Interna

Tesi: "Trace elements in rheumatic diseases" (published)
50/50 with honors University of Genova - Genova - IT

2014 Bucharest Laurea in Medicina "Honoris Causa" (Honorary Doctorate)

conferita in Bucharest by the Senatus and Rector (Prof. Joanel Sinescus) following Lectio Magistralis – State University "Carolus Davila" – Bucharest (Romania)

ESPERIENZA ACCADEMICA

1998 - 2000 **Professore Associato di Medicina Interna**
University of Genova - Genova - IT

2002-2023 **Professore Ordinario di Reumatologia**
University of Genova - Genova - IT

2023 ongoing **Professore Emerito di Reumatologia e Senior Consultant**
University of Genova - Genova - IT

INCARICHI ACCADEMICI

1998 - 2000
Responsabile dei reparti clinici, dei Laboratori di Ricerca e del Centro diagnostico del microcircolo
Associate Professor on Internal Medicine
University of Genova DiMI - Genova – IT

2002-2023
Direttore della of the Academic Division of Rheumatology and dei Laboratories for Rheumatological Research e della Scuola di Specializzazione in Reumatologia
Director and Consultant Rheumatological Unit IRCCS Polyclinic Hospital San Martino Genova
Full Professor of Rheumatology
University of Genova DiMI - Genova - IT

2023 ongoing
Direttore dei Laboratories for Rheumatological Research and Senior Consultant - Scientific Consultant della Rheumatological Unit IRCCS Polyclinic Hospital San Martino Genova
Emeritus Professor of Rheumatology and Senior Consultant
University of Genova DiMI - Genova - IT

2013 - ongoing
Fondatore ed attuale Membro del Board e dei Tutori del PhD Program on Clinical and Experimental Immunology
DiSEM/DiMI PhD programme
Medical School University of Genova - IT

PRESTIGIOSI RICONOSCIMENTI INTERNAZIONALI

2010 Budapest
Nominato **Honorary Member of the Hungarian Association of Rheumatologists** durante il National Congress dal President of the Hungarian Society 23 September 2010

2010 Moscow

Nominato **Honorary Member of the Russian Society for Rheumatology**

Durante il National Congress of the Society in Sankt-Peterburg (Russia) 26-29 October 2010

2014 Bucharest

Insignito della **Lauris Doctor Honoris Causa in Medicine HONORARY DOCTORATE** in Bucharest dal Senatus e dal Rettore (Prof. Joanel Sinescus) fa seguito di Lectio Magistralis – Università Statale “Carolus Davila” – Bucharest (Romania) 29 and 30 May 2014

2017 Zurich

Nominato **Honorary Member of the European Alliance of Association for Rheumatology (EULAR)** durante il 70th Annual EULAR Congress in Madrid (Spain) 14-17 June 2017

2024 Washington

Da parte dell' American College of Rheumatology (ACR) and the Association of Rheumatology Professionals (ARP) Membership and Awards Committee, MC ha ricevuto dopo selezione competitiva la prestigiosa nomina di **ACR Master Designation as AWARD winner** (unico europeo nel 2024) durante la Opening Ceremony del 2024 ACR Annual Meeting 15th November

2024/2027 Atlanta

Nominato dall' **American College of Rheumatology (ACR)** and dall'ACR Global Engagement Committee, dopo selezione competitiva **ACR International Adviser**

2025 Zurich

M Cutolo nel corso **EULAR 2025 Opening Plenary Session** on Wednesday, 11 June 2025 in Barcelona, **dopo selezione competitiva** è stato insignito del: 2025 EULAR Award Certificate from the EULAR President attribuendo per l'anno 2025 (un solo premiato ogni anno) dell' **EULAR 2025 Meritorious Service Award in Rheumatology** in teaching-training, research and clinical management

RICONOSCIMENTI, INCARICHI e PREMI INTERNAZIONALI

- **1999 – 2018 Boston**

Founder of the **Study Group on NeuroEndocrine Immunology (NEI) at the American College of Rheumatology (ACR) Annual Meeting**. The study group was always well accepted by many colleagues in Rheumatology and Clinical Immunology at ACR because it bridged the different disciplines of Immunology, Endocrinology, and Neuroscience. MC was also invited speaker in 12 of the 18 NEI sessions during the Annual ACR Meeting until November 2018 (ACR Chicago, IL November)

- **1999 - 2021 USA**

Appointed Scientific Board Member of the American Autoimmune Related Diseases Association (AARDA) 22100 Gratiot Ave. Eastpointe, MI 48021 USA

- **2004 - 2007 Rome**

Elected **Vice President of the Italian Society for Rheumatology (SIR)** and co-organizer of the National Congress

- **2003 - 2007 Zurich**
Elected **Member of the Scientific Committee of the European League Against Rheumatic Diseases (EULAR)**
- **2008 - 2015 Athens**
Appointed **Member of the Executive Committee** of the International Society for Neuroimmunomodulation (ISNIM)
- **2009 - 2011 Zurich**
Appointed **Chairman of Standing Committee for Education and Training (ESCET)** of the European League Against Rheumatic Diseases (EULAR)
- **2010 Zurich**
Executive President of the 11th Annual Congress of the European League Against Rheumatism (EULAR) Rome, Italy (*June 16 - 19, 2010*)
- **2012 - 2018 Washington**
Founder of the **Study Group on Capillaroscopy in Rheumatic Diseases at the American College of Rheumatology (ACR)** approved by ACR at the 2012 at Annual ACR Meeting (Washington, DC) *November 9-14, 2012*. **M Cutolo has been the coordinator every Annual ACR Meeting** from November 2012 (ACR Washington DC) until November 2019 (ACR Atlanta, Georgia November)
- **2013 - ongoing Bruxelles/Pisa**
Co-founding member and appointed **Deputy Chair of the European Rare Diseases Network (ERN)** on Rare and Complex Connective Tissue Diseases (ReCONNET)
- **2013-2015 Zurich**
Member of the **EULAR Foundation for Research FOREUM**
- **2011-2013 Zurich**
President-elect of the 16th European League Against Rheumatic Diseases (EULAR) and member of Steering Group
- **2013-2015 Zurich**
M Cutolo served as **Full President of the European League Against Rheumatic Diseases (EULAR)** for a period of 3 years
- **2015 ongoing Rome**
The Italian Society for Rheumatology (SIR) following the nomination by the President voted and appointed by the board **appointed M CUTOLO liaison officer SIR-EULAR**
- **2015 Zurich**
Executive President of the 11th Annual Congress of the **European League Against Rheumatism (EULAR)** Rome, Italy (*June 10-13, 2015*)
- **2015 ongoing Rome**
M Cutolo was named by the Italian Society of Rheumatology as **Chair of the Study Group on Capillaroscopy and Microcirculation in Rheumatic Diseases (CAPSIR)**
- **2014-2015 Atlanta**
M Cutolo has been appointed at the ACR Meeting in 2014 and has served as **Chairman of the International League of Associations for Rheumatology (ILAR)** managing the ILAR Committee meetings during the ACR annual Meeting in 2014 and 2015. Le maggiori Organizzazioni Reumatologiche Mondiali partecipanti erano were represented by the relative Presidents of **ACR (American Association), EULAR**

(European Federation), **PANLAR** (Lega PanAmericana), **APLAR** (Lega Asiatica) , and **AFLAR** (Lega Africana) ed interagivano sotto la Presidenza di MC

- **2017 Zurich**
President of the EULAR election Committee for the elections of new EULAR Steering Committee and Committee Chairs
- **2016 ongoing Manchester**
Appointed member **of the Steering Committee** of the **Immune Mediated Inflammatory Disease FORUM IMID (alias CSF forum)** www.imidforum.com
- **2017 ongoing Zurich**
Appointed **Advisor** of the Education Committee the **EULAR School of Rheumatology (ESoR)**
- **2023 ongoing USA**
Appointed **Member of the Medical and Scientific Advisory Council** of the **Autoimmune Association USA** (world's leading nonprofit dedicated to autoimmune awareness, education, advocacy, and research Clinton Township, Michigan, USA . <https://autoimmune.org>)
- **2024 Washington**
On **behalf of the American College of Rheumatology (ACR)** and the Association of Rheumatology Professionals (ARP) Membership and Awards Committee, MC received the **ACR Master Designation** as AWARD winner and presented during the Opening Ceremony of the 2024 ACR Annual Meeting (15th November in Washington))
- **2024/2027 Washington**
On **behalf of the American College of Rheumatology (ACR)** and the **ACR Global Engagement Committee**, MC has been selected for the **role of ACR International Adviser**.
- **2024 ongoing Rome**
Named by the President of the Italian Society of Rheumatology (SIR), **Chair of the Scientific Committee of the Italian National Society of Rheumatology** with the mission of the management of the scientific issues related to the Society (28th November 2024)
- **2025 Zurich**
M Cutolo during the **EULAR 2025 Opening Plenary Session** on Wednesday, 11 June 2025 in Barcelona, MC received the 2025 EULAR Award Certificate from the EULAR President being nominated for the **yearly** (one each year) **EULAR 2025 Meritorious Service Award in Rheumatology**

M Cutolo nella CLASSIFICA INTERNAZIONALE

2024 M Cutolo si classifica al 42° posto tra i migliori scienziati italiani in Scienze Cliniche ([Users/mcutolo/Desktop/Top%20Italian%20Scientists.webarchive](https://www.webarchive.org/it/wayback/https://www.users.mcutolo.com/Desktop/Top%20Italian%20Scientists))

2023 M Cutolo si classifica al 4463° posto tra i primi 200.000 scienziati mondiali in 22 campi scientifici (secondo per l'intera Università di Genova) Aggiornamento dati di agosto 2024 per "Database aggiornati di autori di indicatori di citazione standardizzati" - Elsevier BV

[August 2024 data-update for "Updated science-wide author databases of standardized citation indicators" - Elsevier BV \(digitalcommonsdata.com\) \(https://dx.doi.org/10.17632/btchxktzyw \)](#)

Search:XLSX

Table_1_Authors_career_2023_pubs_since_1788_wopp_extracted_202408.xlsx

Published: 16 September 2024|Version 7 |DOI: 10.17632/btchxktzyw.7.

2024 M Cutolo According to the Research.com, a leading academic platform for researchers, just released for the 2024 Edition of Ranking of Best Scientists in the field of Medicine is ranked **#93 in Italy and #3434 in the world**. The full ranking for Italy is available here: research.com/scientists-rankings/medicine/it The full world ranking is available here: research.com/scientists-rankings/medicine

2024 M Cutolo is ranked in 2024 in the top 0.05% of all scholars worldwide according to the most recent 2024 ScholarGPS rankings that includes 350,000 distinct Specialties, 177 Disciplines, and 14 Fields. Highly Ranked Scholars™ are, for the first time, identified within each Specialty, Discipline, Field, and all Fields.

2025 M Cutolo secondo **Research.com** è **segnalato come il secondo professore più quotato presso l'Università di Genova ITALIA** (D-index 118, citazioni 67.571) <https://research.com/university/medicine/university-of-genoa>

PRODUZIONE SCIENTIFICA

M Cutolo ha prodotto più di 850 (peer reviewed papers) listed in PUB MED.

M Cutolo attuale **H Index: 129** (Google Scholar more than 76,688 citations) **and H Index:**

104 (Scopus more than 51,000 citations) (Agosto 2025)

ORGANIZZAZIONE DI CORSI E CONGRESSI INTERNAZIONALI

- **1998 up 2013**
Organizer and Chairman of the **5 International Conferences on Neuroendocrine Immune Basis of the Rheumatic Diseases** (NEIRD) in cooperation with ACR/NIH (Santa Margherita ITALY 1998, 2001, 2005, 2009, 2013)
- **From 2003 ongoing**
Organizer and Co-Chairman of the **Workshops/Skill Sessions 2024 Genova**
Organizer and Chairman of the **43rd European Workshop on Rheumatology Research** (EWRR2024) (participants from 35 countries) endorsed by EULAR, Italian Society for Rheumatology (SIR), European Network on Rare and Complex Connective Tissue Diseases (ERN ReCONNET) and University of Genova (UNIGE) (<https://ewrr2024.com>)
- **From 2003 ongoing**
Organiser of the Skill Session Capillaroscopy/Microcirculation and Rheumatic Diseases **during the annual EULAR Congresses** (Lisbon 2003, Berlin 2004, Vienna

2005, Amsterdam 2006, Barcelona 2007, Paris 2008, Copenhagen 2009, Rome 2010, London 2011, Berlin 2012, Madrid 2013, Paris 2014, Rome 2015, London 2016, Madrid 2017, Amsterdam 2018, Madrid 2019, Copenhagen 2022, Milan 2023, Vienna 2024, Barcelona 2025 (<https://www.eular.org>)

- **From 2004 ongoing**
Organizer and Co-Chairman of the EULAR Live 3 days Courses full immersion on Capillaroscopy and Rheumatic Diseases (Genova 2004, 2006, 2008, 2010, 2012, 2013, 2014, 2016, 2018, and each year precede the EULAR Congress: Madrid 2019, Copenhagen 2022, Milan 2023, Vienna 2024, Barcelona 2025 Average number of participants 110 from 32-45 Countries
- **2009 and 2010**
Organizer and Chairman of the 3 days EULAR Postgraduate Courses (Torre del Greco Naples - Italy)
- **2016 ongoing**
Organizer and Chairman of the National Study Group on Capillaroscopy and Microcirculation in Rheumatic Diseases Workshop (CAPSIR) and Board Meetings and Annual hands-on during the Annual Congress of the **Italian Society for Rheumatology (SIR)** (November every year)
- **2020-2023-2025**
Organization and Co-Chair First EULAR (267 participants from 65 countries) **and second online Course** (243 participants from 60 countries) and third (257 participants from 47 countries) on Capillaroscopy and Microcirculation in Rheumatic Diseases (7 modules duration 1 year with final examination on line and EULAR diploma/master) [EULAR School of Rheumatology https://esor.eular.org](https://esor.eular.org)
- **2024 Rome**
Co-Organizer and Moderator of the First Residential and Educational Course for Postgraduates on Rheumatology on Capillaroscopy and Microcirculation on RMDs organized by the Italian Society of Rheumatology (SIR) (*Rome 29-30 May 2025*) (www.sircourses.com)

Selezione di capitoli di Libri e di Moduli on line coinvolto come Editore/Autore

Editor of the volumes of the Annals of the New York Academy of Sciences: “Neuroendocrine Immune Basis of the Rheumatic Diseases” (vol 876/1999, vol 966/2002, vol 1069/2000 and vol 1193/2010) **CoEditor** of the volumes of the of the Rheumatic Diseases Clinics of North America “Neuroendocrine Immunology of the Rheumatic Diseases” (Saunders) (vol 26:4/ 2000, vol 31:1/2005)

Co-Editor of the volume 22, issue 6: “Modern imaging techniques: a revolution for rheumatology practice”. Best Pract Res Clin Rheumatol (Elsevier) – 2008

Editor of the first textbook on capillaroscopy entitled: Atlas of capillaroscopy in Rheumatic Diseases - Elsevier 2010 endorsed by EULAR.

Author Chapter “Neuroendocrine immunology in rheumatic diseases” in the EULAR Compendium on Rheumatic Diseases (2009, chap 50 BMJ and chapter 2 in the 2013 in the Kelley's Textbook of Rheumatology (2010-2011, chap 121)

Author Chapter “Effects of the Neuroendocrine System on Development and Function of the Immune System” in Rheumatology - Fifth edition by Marc C. Hochberg, Alan J. Silman, Josef S.

Smolen, Michael E. Weinblatt, MD, and Michael H. Weisman, MD. (2010, chap 24, Elsevier). - Varga J, ed. Scleroderma: From pathogenesis to Comprehensive Management. New York: Springer Science+Business Media, LLC. 2012. Chapter:

Co-Author Cutolo M, Smith V. Nailfold Capillaroscopy, p 331-346.

Co-Author 1st EULAR On-line Course on Systemic Sclerosis September 2011 - June 2012. Module: **Co-Author** Assessment tools of the microcirculation.

Editors Cutolo M & Smith V, Novel insights into systemic sclerosis management. Future Science Group. Future Medicine Ltd, Unitec House, 2 Albert Place, London N3 1QB, UK 2013. Published by Future Medicine Ltd www.futuremedicine.com

Co-Editor 3rd EULAR On-line Course in Systemic Sclerosis September 2013 – June 2013. Module: 3. in Co-Authors

Cutolo M, Smith V. Nailfold capillaroscopy and other methods to assess the microvasculopathy in systemic sclerosis. Hachulla E & Czirjak L, eds. EULAR Textbook on Systemic Sclerosis. BMJ. 2013. Chapter: 14.

Co-Authors Cutolo M, Smith V. Nailfold capillaroscopy and other methods to assess the microvasculopathy in systemic sclerosis, p 129-138 - Wigley F et al, eds. Raynaud's Phenomenon – A guide to Pathogenesis and Treatment. Springer Publishing. 2014. Chapter: 10c.

Co-Editor 2021-2023 of the First EULAR on line Course on Capillaroscopy and Microcirculation in RMDs (7 modules).

Co-Editor from 2019 and following updates of the First EULAR Module on line on Nutrition in RMD. **Editor** from 2020 of the Special Issues of the Journal Nutrients: Vitamin D and autoimmunity.

Co-Editor and Author of chapters for the **Springer Textbook** "Nailfold Capillaroscopy in Rheumatological Diseases" (Published on October-November 2025).

Editore o Membro del Board Editoriale di Riviste (peer revision)

- **1983 ongoing**
Editorial Member, Associate Editor (from 2020) and now **Senior Editor of Clinical and Experimental Rheumatology** (*Chief Editor S. Bombardieri*)
- **1998 - 2008** Member of the **Editorial Board of Rheumatology (Oxford)**
- **2002 - 2005** Member of the **Advisory Board of Arthritis and Rheumatology** (*Editor D Pisetsky*) *Official Journal of ACR*
- **2003 ongoing** Member of the **Editorial Board of Annals of the Rheumatic Diseases** *Official Journal of EULAR* (IF 2022, 27.4)
- **2015 ongoing** Member of the **Editorial Board of RMD open** *Official Journal of EULAR*
- **2024** **Co-Editor** with S. Bombardieri of the new Journal (May 2024) **Journal of Environmental Rheumatology**
- **2025 Co-Editor** of the volume **Rheumatoid Arthritis and Nutrition: Bridging Diet and Disease Management** a special issue of **Nutrients** (ISSN 2072-6643) series "Clinical Nutrition"

MAGGIORI E PIONERISTICI ARGOMENTI DELLA RICERCA

Neuroendocrine Immunology of Rheumatic Diseases (NEIRD) and circadian rhythms

M. Cutolo e il TEAM hanno prodotto ricerche originali e seminali sulla NEIRD dal 1990, con la scoperta originale di recettori funzionali per gli ormoni sessuali sui macrofagi sinoviali nell'artrite reumatoide (AR). M. Cutolo ha dimostrato che i macrofagi in coltura metabolizzano gli ormoni sessuali fino ai metaboliti attivi e modulano la risposta immunitaria. D'altra parte, i ritmi circadiani guidano, durante la notte, l'attivazione del sistema immunitario attraverso vari ormoni e principalmente cortisolo, e in particolari condizioni di loro carenza, come nel caso di malattie infiammatorie come l'AR, la risposta immunitaria notturna non è controllata. A questo scopo, ad esempio a seguito delle ricerche del Team Cutolo a partire dal 2000, lo studio sulla presenza di insufficienza surrenalica (correlata allo stress cronico indotto dalle malattie) attraverso test dinamici basali della funzione del surrene, con valutazione circadiana della produzione endogena di glucocorticoidi surrenali, ha condotto alla produzione commerciale del primo prednisone a rilascio programmato notturno,

Cutolo M et al. Presence of estrogen-binding sites on macrophage-like synoviocytes and CD8+, CD29+, CD45RO+ T lymphocytes in normal and rheumatoid synovium. Arthritis Rheum. 1993 Aug;36(8):1087-97

Cutolo M, Straub RH, Bijlsma JW. Neuroendocrine-immune interactions in synovitis. Nature Clin Pract Rheumatol. 2007 Nov;3(11):627-34.

Straub RH, Bijlsma JW, Masi A, Cutolo M. Role of neuroendocrine and neuroimmune mechanisms in chronic inflammatory rheumatic diseases--the 10-year update. Semin Arthritis Rheum. 2013 Dec;43(3):392-404.

Cutolo M et al. Circadian rhythms in RA. Ann Rheum Dis. 2003 Jul;62(7):593-6

Straub RH & Cutolo M. Circadian rhythms in rheumatoid arthritis: implications for pathophysiology and therapeutic management. Arthritis Rheum. 2007 Feb;56(2):399-408

Cutolo M. Rheumatoid arthritis: circadian and circannual rhythms in RA. Nature Rev Rheumatol. 2011 Aug 2;7(9):500-2.

Burmester GR, Bijlsma JWJ, Cutolo M, McInnes IB. Managing rheumatic and musculoskeletal diseases - past, present and future. Nature Rev Rheumatol. 2017 Jul;13(7):443-448.

Cutolo M, Straub RH. Sex steroids and autoimmune rheumatic diseases: state of the art. Nature Rev Rheumatol. 2020 Nov;16(11):628-644

Cutolo M et al. Glucocorticoids in rheumatoid arthritis still on first line: the reasons. Expert Rev Clin Immunol. 2021 May;17(5):417-420

Straub RH, Cutolo M. A History of Psycho-Neuro-Endocrine Immune Interactions in Rheumatic Diseases. Neuroimmunomodulation. 2024;31(1):183-210

Cutolo M, Gotelli E. The Importance of Neuroendocrine Immunology Pathways in the Course of COVID-19. Neuroimmunomodulation. 2024;31(1):62-64

Identificazione dei fenotipi macrofagici M1/M2 nell'artrite reumatoide e nella sclerosi sistemica

M Cutolo e TEAM hanno tra i primi valutato la transizione dei macrofagi M1/M2 da pazienti con artrite reumatoide (RA) e la loro modulazione *in vitro* legata allo stato di malattia. Successivamente, hanno identificato per la prima volta i fenotipi dei monociti circolanti e dei macrofagi di origine polmonare e cutanea nella sclerosi sistemica (SSc). In particolare, la transizione dai macrofagi M1 a M2 è stata valutata in studi *in vitro*, così come i marcatori di membrana cellulare e funzionali che identificano M1 e M2 quando modulati da farmaci. Un

particolare fenotipo monocitario circolante ibrido M1/M2 è stato rilevato per la prima volta in pazienti con SSc.

Tardito Sand Cutolo M. Macrophage M1/M2 polarization and rheumatoid arthritis. *Autoimmun Rev.* 2019 Nov;18(11):102397

Cutolo M et al. CTLA4-Ig treatment induces M1-M2 shift in cultured monocyte-derived macrophages from healthy subjects and rheumatoid arthritis patients. *Arthritis Res Ther.* 2021 Dec 24;23(1)

Cutolo et al. The Role of M1/M2 Macrophage Polarization in Rheumatoid Arthritis Synovitis. *Front Immunol.* 2022 May 19;13:867260 (→ **July 2025 44K Total views 25,7K Downloads 364 Citations**)

Soldano S. and Cutolo M. Increase in circulating cells coexpressing M1 and M2 macrophage surface markers in patients with systemic sclerosis. *Ann Rheum Dis.* 2018 Dec;77(12):1842-1845.

Trombetta AS. and Cutolo M. A circulating cell population showing both M1 and M2 monocyte/macrophage surface marker characterizes systemic sclerosis patients with lung involvement. *Respir Res.* 2018 Sep 24;19(1):186

Cutolo M et al. Dynamic macrophage phenotypes in autoimmune and inflammatory rheumatic diseases. *Nat Rev Rheumatol.* 2025 Jul 28. doi: 10.1038/s41584-025-01279

Ricerca focalizzata sugli effetti indotti dal seco-ormone D (vitamina D) nelle malattie reumatiche autoimmuni e nell'infezione da SARSCov2 (COVID-19)

M. Cutolo e il TEAM hanno studiato approfonditamente per la prima volta il ruolo della carenza di calcitriolo (1,25(OH)₂ D₃) nelle malattie reumatiche autoimmuni (ARD) e nei pazienti affetti da COVID.

Il metabolita sierico endogeno della vitamina D (calcitriolo) è considerato un vero e proprio ormone steroideo (ormone D) e, come i glucocorticoidi (GC) e gli ormoni gonadici, può esercitare diverse attività immunomodulatrici. La carenza sierica di vitamina D (25(OH)₂ D), e quindi la ridotta disponibilità di 1,25(OH)₂ D₃, è considerata un fattore di rischio per diverse condizioni croniche/infiammatorie o autoimmuni, tra cui malattie infettive, diabete di tipo 1, sclerosi multipla e, in particolare, malattie reumatiche autoimmuni (ARD). In effetti, nelle ARD, la 1,25(OH)₂ D₃ regola sia l'immunità innata che quella adattativa, potenziando la risposta innata (attività antimicrobica), ma riducendo l'immunità adattativa (presentazione dell'antigene, attività delle cellule T e B).

Al contrario, la carenza di vitamina D sembra svolgere un ruolo nell'aumento della produzione di autoanticorpi da parte delle cellule B e, come dimostrato di recente, il calo stagionale della vitamina D può scatenare riacutizzazioni delle malattie da distress respiratorio acuto (ARD).

Drammatici gli effetti della carenza di calcitriolo nei pazienti affetti da COVID-19 e quindi dell'infezione da SARSCov2 come fattore di rischio per la gravità della malattia e la morte.

Cutolo M et al. Circannual vitamin D serum levels and disease activity in rheumatoid arthritis: Northern versus Southern Europe. *Clin Exp Rheumatol.* 2006 Nov-Dec;24(6):702-4

Cutolo M et al. Vitamin D involvement in rheumatoid arthritis and systemic lupus erythematosis. *Ann Rheum Dis.* 2009 Mar;68(3):446-7

Cutolo M. Further emergent evidence for the vitamin D endocrine system involvement in autoimmune rheumatic disease risk and prognosis. *Ann Rheum Dis.* 2013 Apr;72(4):473-5

Cutolo M et al. Evidences for a protective role of vitamin D in COVID-19. *RMD Open.* 2020 Dec;6(3):e001454

Cutolo M, Gotelli E The 2023's Growing Evidence Confirming the Relationship between **Vitamin D** and Autoimmune Diseases. *Nutrients.* 2023 Nov 13;15(22):4760.

Sulli A .. and Cutolo M. Vitamin D and Lung Outcomes in Elderly COVID-19 Patients. *Nutrients.* 2021 Feb 24;13(3):717.

Cutolo M et al. Involvement of the secosteroid vitamin D in autoimmune rheumatic diseases and COVID-19. *Nature Rev Rheumatol.* 2023 May;19(5):265-287

Hysa E ... Cutolo M. Vitamin D and Muscle Status in Inflammatory and Autoimmune Rheumatic Diseases: An Update. *Nutrients.* 2024 Jul 19;16(14):2329

Prima definizione dei patterns videocapillaroscopici nella sclerosi sistemica, loro quantizzazione e loro ruolo prognostico

M. Cutolo e TEAM hanno proposto per la prima volta nel 2000 una nuova classificazione dei pattern microvascolari (early, active, late) osservati nella sclerosi sistemica (SSc) mediante la videocapillaroscopia periungueale (NVC). MC ha identificato anche il pattern NVC "very early" nella SSc, l'unico che, insieme al fenomeno di Raynaud (RP) e alla presenza di autoanticorpi, consente un sospetto molto precoce di SSc. La NVC è oggi obbligatoria per la diagnosi differenziale molto precoce/precoce tra RP benigno e RP associato a SSc. Inoltre, sulla base della qualificazione delle alterazioni della NVC è possibile prevedere le complicanze cliniche nelle malattie del connettivo, principalmente nella SSc e nel relativo coinvolgimento polmonare e cutaneo. Inoltre, e logicamente, nella SSc, la microangiopatia, valutata tramite NVC come biomarker, è stata associata a marcatori della malattia come fattori angiogenici/statici e anticorpi specifici per la SSc. Inoltre, le valutazioni morfologiche del microcircolo (capillaroscopia) sono correlate alle valutazioni funzionali del flusso sanguigno periferico (ad esempio mediante Laser Doppler). Da questi studi, la European League Against Rheumatism (EULAR) e l'American College of Rheumatology (ACR) hanno introdotto nel 2013 l'analisi del NCV, tra i criteri per la classificazione della SSc.

Cutolo M, Sulli A, Smith V. Assessing microvascular changes in systemic sclerosis diagnosis and management. *Nature Rev Rheumatol.* 2010

Cutolo M et al. Nailfold Videocapillaroscopic Features and Other Clinical Risk Factors for Digital Ulcers in Systemic Sclerosis: A Multicenter, Prospective Cohort Study. CAP Study Investigators. *Arthritis Rheum* 2016 Oct;68(10):2527-39

Cutolo M, Sulli A. Therapy. Optimized treatment algorithms for digital vasculopathy in SSc. *Nature Rev Rheumatol.* 2015 Oct;11(10):569-71

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Oliver Distler.... Cutolo M et al. Nintedanib for Systemic Sclerosis-Associated Interstitial Lung Disease. *New Engl J Med* 2019 Jun 27;380(26):2518-2528.

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Tutoraggio Internazionale

From 2008 up now M Cutolo ospita e segue come tutor/mentor 87 colleghi quali, *medical students, postgraduates, research fellows, PhD, rheumatologists, EULAR and ERASMUS Scholars and professors* per periodi di internato presso i Research Laboratory of Experimental Rheumatology or at the Clinical Division of Rheumatology for periods ranging from 2 weeks up

to 24 months. MC dal 2023 ospita nel programma Europeo di Exchange della EU, per il progetto ERN ReCONNET, medici e personale paramedico, nonch[malati in visita presso la Clinical Division of Rheumatology.

The countries of origin of the fellows were: *UK, Canada, China, Russia, Germany, South Africa, Brasil, Israel, Japan, Brasil, Peru, Australia, Portugal, Albania, Rumania, Estonia, Latvia, Sweden, Finland, Croatia, Poland, Greece, Ukraine, Jordan, Chile, Hong Kong, Moldovia, Serbia, Colombia, France, Russia, Hungary, Egypt, Argentina, Bolivia, Mexico, Turkey, Spain, Irland, Belgium, Malaysia.*

The original documents and CV of each fellow are availabl on files.