

EULAR Study Group on NeuroEndocrine Immunology of Rheumatic Diseases (NEIRD)

(Report activities 2010-2011)

Chair: Prof. M. Cutolo, Genoa

The EULAR Study Group on Neuro Endocrine Immunology of the Rheumatic Diseases (NEIRD) **was founded in 1998 during the First International Conference on Neuroendocrine Immune Basis of the Rheumatic Diseases held in Genova-I with EULAR Patronage (September 18-20)**. In 1999 by the same founders was established at the ACR a Study Group on Neuroendocrine Immunology (and regularly attended with a session every year).

The members of the NEIRD organized the following NEIRD Conferences (2nd, 3rd, 4th and 5) held in 2001, 2005, 2009, 2013 (next year) always under the EULAR patronage.

The results of the NEIRD Study Group are regularly presented (from 1999) during the EULAR annual meeting at the ESCIR workshop.

The EULAR/ACR members involved from the beginning in the **NEIRD Study Group** include RH Straub (D), JWJ Bijlsma (NL), F Buttgereit (D), L Crofford (US), J Kirwan (UK), S Capellino (I/D), JAP DaSilva (P), A Doria (I), G Chrousos (G), M Petri (US), M Cutolo (I), A Tincani (I), K Otsa (E), JM Dayer (S), J Rovensky (SK), P SarziPuttini (I), Y Shoenfeld (IS), F Atzeni (I), D Jessop (UK), C Pitzalis (UK) M Lockshin (US), I Elenkov (I), M Ostensen (N), Meroni PL (I), and others including A Masi (US) and R Lahita (US)

Major topics of the investigations in the last 2 years (2010-2011) included:

Sex hormone, pregnancy and rheumatic diseases

Circadian rhythms and rheumatic diseases

Glucocorticoids and rheumatic diseases

Vitamin D and rheumatic diseases

° Jawaheer D, Olsen J, Lahiff M, Forsberg S, Lähteenmäki J, da Silveira IG, Rocha FA, Magalhães Laurindo IM, Henrique da Mota LM, Drosos AA, Murphy E, Sheehy C, Quirke E, Cutolo M, Rexhepi S, Dadoniene J, Verstappen SM, Sokka T; QUEST-RA. Gender, body mass index and rheumatoid arthritis disease activity: results from the QUEST-RA Study. Clin Exp Rheumatol. 2010 Jul-Aug;28(4):454-61

° Roman-Blas JA, Castañeda S, Cutolo M, Herrero-Beaumont G. Efficacy and safety of a selective estrogen receptor β agonist, ERB-041, in patients with rheumatoid arthritis: a 12-week, randomized, placebo-controlled, phase II study. Arthritis Care Res (Hoboken). 2010 Nov;62(11):1588-93

° Cutolo M, Brizzolara R, Atzeni F, Capellino S, Straub RH, Puttini PC. The immunomodulatory effects of estrogens: clinical relevance in immune-mediated rheumatic diseases. Ann N Y Acad Sci. 2010 Apr;1193:36-42.

° Montagna P, Soldano S, Brizzolara R, Villaggio B, Triolo P, Clerico P, Meroni M, Sulli A, Serio B, Molfetta L, Cutolo M. Estrogens interfere with leflunomide modulation of cytokine production by human activated monocytes. Ann N Y Acad Sci. 2010 Apr;1193:30-5

° Soldano S, Montagna P, Brizzolara R, Sulli A, Parodi A, Serio B, Paolino S, Villaggio B, Cutolo M. Effects of estrogens on extracellular matrix synthesis in cultures of human normal and scleroderma skin fibroblasts. Ann N Y Acad Sci. 2010 Apr;1193:25-9

° Andreoli L, Bazzani C, Taraborelli M, Reggia R, Lojaco A, Brucato A, Meroni PL, Tincani A. Pregnancy in autoimmune rheumatic diseases: the importance of counselling for old and new challenges. Autoimmun Rev. 2010 Nov;10(1):51-4

- ° *Lowin T, Weidler C, Jenei-Lanzl Z, Capellino S, Baerwald CG, Buttgereit F, Straub RH.* Relation between placental growth factor-1 (PIGF-1) and vascularization, DHEAS to DHEA conversion, or aromatase expression in patients with arthritis. *Arthritis Rheum.* 2011 Dec 14. doi: 10.1002/art.34338.
- ° *Pongratz G, Straub RH, Schölmerich J, Fleck M, Härle P.* Serum BAFF strongly correlates with PsA activity in male patients only--is there a role for sex hormones? *Clin Exp Rheumatol.* 2010 Nov-Dec;28(6):813-9
- ° *Taraborelli M, Ramoni V, Brucato A, Airò P, Bajocchi G, Bellisai F, Biasi D, Blagojevic J, Canti V, Caporali R, Caramaschi P, Chiarolanza I, Codullo V, Cozzi F, Cuomo G, Cutolo M, De Santis M, De Vita S, Di Poi E, Doria A, Faggioli P, Favaro M, Ferraccioli G, Ferri C, Foti R, Gerosa A, Gerosa M, Giacuzzo S, Giani L, Giuggioli D, Imazio M, Iudici M, Iuliano A, Leonardi R, Limonta M, Lojacono A, Lubatti C, Cerinic MM, Mazzone A, Meroni M, Meroni PL, Mosca M, Motta M, Muscarà M, Nava S, Padovan M, Pagani G, Paolazzi G, Peccatori S, Ravagnani V, Riccieri V, Rosato E, Rovere-Querini P, Salsano F, Santaniello A, Scorza R, Tani C, Valentini G, Valesini G, Vanoli M, Vigone B, Zeni S, Tincani A;* on behalf of the IMPRESS investigators. Successful pregnancies but a higher risk of preterm births in systemic sclerosis: An Italian multicentric study. *Arthritis Rheum.* 2011 Dec 28. doi: 10.1002/art.34350
- ° *Ostensen M.* Connective tissue diseases: Contraception counseling in SLE--an often forgotten duty? *Nat Rev Rheumatol.* 2011 Jun;7(6):315-6
- ° *Ostensen M, Brucato A, Carp H, Chambers C, Dolhain RJ, Doria A, Förger F, Gordon C, Hahn S, Khamashta M, Lockshin MD, Matucci-Cerinic M, Meroni PL, Nelson JL, Parke A, Petri M, Raio L, Ruiz-Irastorza GR.* Pregnancy and reproduction in autoimmune rheumatic diseases. *Rheumatology (Oxford).* 2011 Apr;50(4):657-662
- ° *Spies CM, Cutolo M, Straub RH, Burmester GR, Buttgereit F.* More night than day--circadian rhythms in polymyalgia rheumatica and ankylosing spondylitis. *J Rheumatol.* 2010 May;37(5):894-9
- ° *Straub RH, Cutolo M, Buttgereit F, Pongratz G.* Energy regulation and neuroendocrine-immune control in chronic inflammatory diseases. *J Intern Med.* 2010; Jun;267(6):543-60
- ° *Alten R, Döring G, Cutolo M, Gromnica-Ihle E, Witte S, Straub R, Buttgereit F.* Hypothalamus-pituitary-adrenal axis function in patients with rheumatoid arthritis treated with nighttime-release prednisone. *J Rheumatol.* 2010 Oct;37(10):2025-31
- ° *Straub RH, Cutolo M, Buttgereit F, Pongratz G.* Energy regulation and neuroendocrine-immune control in chronic inflammatory diseases. *J Intern Med.* 2010 Jun;267(6):543-60
- ° *Alten R, Döring G, Cutolo M, Gromnica-Ihle E, Witte S, Straub R, Buttgereit F.* Hypothalamus-pituitary-adrenal axis function in patients with rheumatoid arthritis treated with nighttime-release prednisone. *J Rheumatol.* 2010 Oct;37(10):2025-31
- ° *Kirwan JR, Clarke L, Hunt LP, Perry MG, Straub RH, Jessop DS.* Effect of novel therapeutic glucocorticoids on circadian rhythms of hormones and cytokines in rheumatoid arthritis. *Ann N Y Acad Sci.* 2010 Apr;1193:127-33.
- ° *Spies CM, Cutolo M, Straub RH, Burmester GR, Buttgereit F.* Prednisone chronotherapy. *Clin Exp Rheumatol.* 2011 Sep-Oct;29(5 Suppl 68):S42-5
- ° *Straub RH, Buttgereit F, Cutolo M.* Alterations of the hypothalamic-pituitary-adrenal axis in systemic immune diseases - a role for misguided energy regulation. *Clin Exp Rheumatol* 2011 Sep-Oct;29(5 Suppl 68):S23-31
- ° *Cutolo M.* Rheumatoid arthritis: circadian and circannual rhythms in RA. *Nat Rev Rheumatol.* 2011 Aug 2;7(9):500-2
- ° *Cutolo M.* How should morning function in rheumatoid arthritis be assessed? Bibliographic study of current assessment. *Scand J Rheumatol Suppl.* 2011;125:17-22
- ° *Sierakowski S, Cutolo M.* Morning symptoms in rheumatoid arthritis: a defining characteristic and marker of active disease. *Scand J Rheumatol Suppl.* 2011;125:1-5
- ° *van der Goes MC, Jacobs JW, Boers M, Andrews T, Blom-Bakkens MA, Buttgereit F, Caeyers N, Cutolo M, Da Silva JA, Guillevin L, Kirwan JR, Rovensky J, Severijns G, Webber S, Westhovens R, Bijlsma JW.*

- Monitoring adverse events of low-dose glucocorticoid therapy: EULAR recommendations for clinical trials and daily practice. *Ann Rheum Dis.* 2010 Nov;69(11):1913-9
- ° *Gorter SL, Bijlsma JW, Cutolo M, Gomez-Reino J, Kouloumas M, Smolen JS, Landewé R.* Current evidence for the management of rheumatoid arthritis with glucocorticoids: a systematic literature review informing the EULAR recommendations for the management of rheumatoid arthritis. *Ann Rheum Dis.* 2010 Jun;69(6):1010-4
 - ° *Atzeni F, Straub RH, Cutolo M, Sarzi-Puttini P.* Anti-TNF therapy restores the hypothalamic-pituitary-adrenal axis. *Ann N Y Acad Sci.* 2010 Apr;1193:179-81
 - ° *Kirwan JR, Clarke L, Hunt LP, Perry MG, Straub RH, Jessop DS.* Effect of novel therapeutic glucocorticoids on circadian rhythms of hormones and cytokines in rheumatoid arthritis. *Ann N Y Acad Sci.* 2010 Apr;1193:127-33
 - ° *Atzeni F, Straub RH, Cutolo M, Sarzi-Puttini P.* Psoriatic arthritis: clinical improvement and correlation with hormone axes in etanercept-treated patients. *Ann N Y Acad Sci.* 2010 Apr;1193:176-8
 - ° *Cutolo M, Villaggio B, Pizzorni C, Paolino S, Moretti S, Gallo F, Bonassi S, Sulli A, Serio B, Montagna P, Soldano S.* Inflammatory gene profile in early rheumatoid arthritis and modulation by leflunomide and prednisone treatment. *Ann N Y Acad Sci.* 2010 Apr;1193:15-21
 - ° *Buttgereit F, Burmester GR, Straub RH, Seibel MJ, Zhou H.* Exogenous and endogenous glucocorticoids in rheumatic diseases. *Arthritis Rheum.* 2011 Jan;63(1):1-9
 - ° *Cutolo M.* Hormone therapy in rheumatic diseases. *Curr Opin Rheumatol.* 2010 May;22(3):257-63.
 - ° *Caporali R, Cimmino MA, Montecucco C, Cutolo M.* Glucocorticoid treatment of polymyalgia rheumatica. *Clin Exp Rheumatol.* 2011 Sep-Oct;29(5 Suppl 68):S143-7
 - ° *Cutolo M, Buttgereit F, Straub RH.* Regulation of glucocorticoids by the central nervous system. *Clin Exp Rheumatol.* 2011 Sep-Oct;29(5 Suppl 68):S-19-22
 - ° *Toubi E, Shoenfeld Y.* The role of vitamin D in regulating the immune response. *Isr Med Assoc J.* 2010 Mar;12(3):174-5
 - ° *Cutolo M.* Hormone therapy in rheumatic diseases. *Curr Opin Rheumatol.* 2010 May;22(3):257-63
 - ° *Hajas A, Sandor J, Csathy L, Csipo I, Barath S, Paragh G, Seres I, Szegedi G, Shoenfeld Y, Bodolay E.* Vitamin D insufficiency in a large MCTD population. *Autoimmun Rev.* 2011 Apr;10(6):317-24
 - ° *Cutolo M, Plebani M, Shoenfeld Y, Adorini L, Tincani A.* Vitamin D endocrine system and the immune response in rheumatic diseases. *Vitam Horm.* 2011;86:327-51
 - ° *Serio B, Molfetta L, Cutolo M.* Seasonal variations in serum levels of 25-hydroxyvitamin D in patients with systemic sclerosis. *Clin Rheumatol.* 2011 Mar;30(3):445-6
 - ° *Arnsen Y, Amital H, Agmon-Levin N, Alon D, Sánchez-Castañón M, López-Hoyos M, Matucci-Cerinic M, Szücs G, Shapira Y, Szekanecz Z, Shoenfeld Y.* Serum 25-OH vitamin D concentrations are linked with various clinical aspects in patients with systemic sclerosis: a retrospective cohort study and review of the literature. *Autoimmun Rev.* 2011 Jun;10(8):490-4
 - ° *Kivity S, Agmon-Levin N, Zisappi M, Shapira Y, Nagy EV, Dankó K, Szekanecz Z, Langevitz P, Shoenfeld Y.* Vitamin D and autoimmune thyroid diseases. *Cell Mol Immunol.* 2011 May;8(3):243-7
 - ° *Cutolo M, Pizzorni C, Sulli A.* Vitamin D endocrine system involvement in autoimmune rheumatic diseases. *Autoimmun Rev.* 2011 Dec;11(2):84-7
 - ° *Straub RH & Cutolo M.* "Neuroendocrine immunology in rheumatic diseases" in the EULAR Compendium on Rheumatic Diseases (2009 & 2012 editions, chapt 50 BMJ)
 - ° *Cutolo M.* "Arthritis Accompanying Endocrine and Metabolic Disorders" chapter in the Kelley's Textbook of Rheumatology (2010-2011, chap 121)
 - ° *Cutolo M & Straub RH.* "Effects of the Neuroendocrine System on Development and Function of the Immune System" chapter in Rheumatology textbook - Fifth edition (2010, chap 24, Elsevier)
 - ° *Straub RH, Sulli A, Cutolo M.* Module (42a) in "EULAR online Course (edition 2009 and 2012) " on" Neuro Endocrine Immunology"

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