

**Ensayo fase III**

**IEDAT**

A Multi-center, Randomized, Double-blind, Placebo-controlled Trial to Evaluate the Effects of *Intra-Erythrocyte Dexamethasone Sodium Phosphate* on Neurological Symptoms in Patients with *Ataxia Telangiectasia*

**Los corticoides por via oral son útiles en la Ataxia Telangiectasia, pero con efectos adversos**

**Potential Therapeutic Strategies: Oral bethamethasone**

**Betamethasone and Improvement of Neurological Symptoms in Ataxia-Telangiectasia**  
*Arch Neurol.* 2009;67(11):1479-1482  
 Sárera Barri, MD, Baglaria Zamallo, MD, Lario Serrano, MD, Alberto Fes, MD

*European Journal of Neurology* 2009; 16: 225-228  
 doi:10.1111/j.1468-1329.2009.02004.x  
**Steroid-induced improvement of neurological signs in ataxia-telangiectasia patients**  
 T. Broccoli<sup>1</sup>, E. Del Giudice<sup>2</sup>, S. Amorisi, I. Russo, M. Di Berto, F. Imperati, A. Romano, and C. Pignata  
*Department of Pediatrics<sup>1</sup>, Faculty of Sciences, Naples, Italy*

*European Journal of Neurology* 2011; 16: 261-276  
 doi:10.1111/j.1468-1329.2010.02262.x  
**Efficacy of very-low-dose betamethasone on neurological symptoms in ataxia-telangiectasia**  
 T. Broccoli<sup>1</sup>, E. Del Giudice<sup>2</sup>, E. Cirillo<sup>1</sup>, I. Vighiano<sup>2</sup>, G. Giardinà<sup>1</sup>, V. M. Giroschi<sup>1</sup>, S. Broccoli<sup>1</sup>, G. Riccardi<sup>1</sup> and C. Pignata<sup>1</sup>  
*<sup>1</sup>Department of Pediatrics, Federico II University, Naples, Italy and <sup>2</sup>Department of Clinical and Experimental Medicine, Section of Pharmacology, University of Ferrara, Ferrara, Italy*

*European Journal of Neurology* 2009; 16: 703-707  
 doi:10.1111/j.1468-1329.2009.02002.x  
**In ataxia-telangiectasia betamethasone response is inversely correlated to cerebellar atrophy and directly to antioxidative capacity**  
 I. Russo<sup>1</sup>, C. Costantino<sup>1</sup>, E. Del Giudice<sup>2</sup>, T. Broccoli<sup>1</sup>, S. Amorisi<sup>1</sup>, E. Cirillo<sup>1</sup>, G. Aloi<sup>1</sup>, A. Fusco<sup>1</sup>, V. Costanzo<sup>1</sup> and C. Pignata<sup>1</sup>  
*<sup>1</sup>Department of Pediatrics, Federico II University, Naples, Italy, and <sup>2</sup>Neurology, Istituto Nazionale per lo Studio e la Cura delle Malattie Neurodegenerative, Vita-Salute University, San Matteo, Pavia, Italy*

- Serendipitous findings have suggested beneficial effects of corticosteroids in the treatment of AT
- Short term trials with an oral corticosteroid showed improvement of neurological symptoms in AT patients
- Significant steroid side effects led to discontinuation of treatment and search for other options

Corticoides (dexametasona) intraeritrocitarios . Ensayo fase II

## IEDAT Phase II trial

Chessa et al. Orphanet Journal of Rare Diseases 2014, 9:5  
<http://www.ojrd.com/content/9/1/5>



RESEARCH

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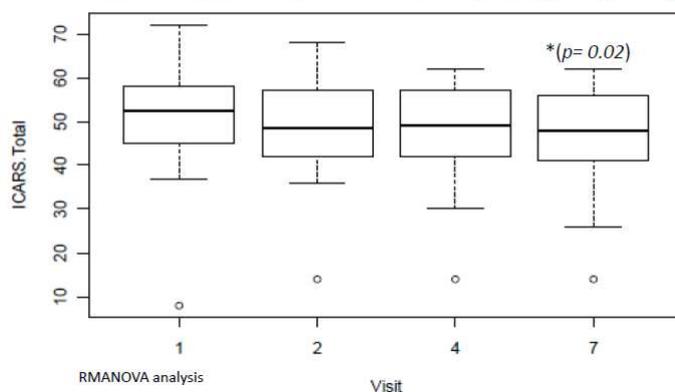
### Intra-Erythrocyte Infusion of Dexamethasone Reduces Neurological Symptoms in Ataxia Teleangiectasia Patients: Results of a Phase 2 Trial

Luciana Chessa<sup>1</sup>, Vincenzo Leuzzi<sup>2\*</sup>, Alessandro Plebani<sup>3</sup>, Annarosa Soresina<sup>3</sup>, Roberto Micheli<sup>4</sup>, Daniela D'Agnano<sup>2</sup>, Tullia Venturi<sup>2</sup>, Anna Molinaro<sup>5</sup>, Elisa Fazzi<sup>4</sup>, Mirella Marini<sup>3</sup>, Pierino Ferremi Leali<sup>3</sup>, Isabella Quinti<sup>6</sup>, Filomena Monica Cavaliere<sup>6</sup>, Gabriella Girelli<sup>6</sup>, Maria Cristina Pietrogrande<sup>7</sup>, Andrea Finocchi<sup>8</sup>, Stefano Tabolli<sup>9</sup>, Damiano Abeni<sup>9</sup> and Mauro Magnani<sup>10</sup>

Corticoides (dexametasona) intraeritrocitarios . Ensayo fase II  
 Mejora escala de ataxia (ICARS)

### Primary efficacy end-point met

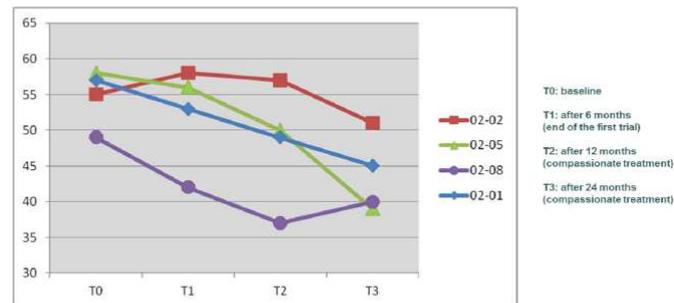
Mean ICARS Total Score over the 6-Month Study Period (ITT Population)



**Corticoides (dexametasona) intraeritrocitarios .  
Seguimiento a largo plazo tras el Ensayo fase II  
Mejora escala de ataxia (ICARS)**

### Chronic treatment with EDS

Long term benefit confirmed with compassionate treatment up to 2 years



**Improvement of ICARS score : + 19.7%**

At the end of the first 6-month trial, 4 male subjects (mean age 10,6 years) continued EDS treatment for an adjunctive 24-month period

### Seguridad Dexametasona en eritrocitos

**En diversos estudios se han tratado en total:**

- 209 sujetos, con 1827 infusiones en total.
- 51 son pediátricos (< 18 años): Fibrosis quística 11, Enf Crohn 19, A-T 22)

Sin toxicidad relacionada con el procedimiento ni con la dexametasona.

Algunos han sido tratados largo tiempo, hasta 36 meses

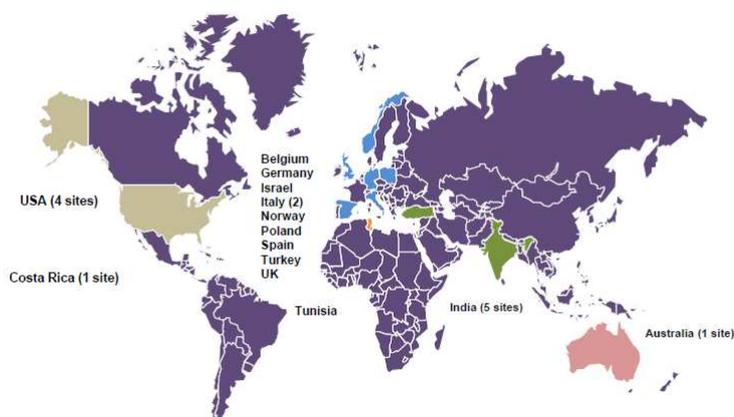
Ensayo fase III

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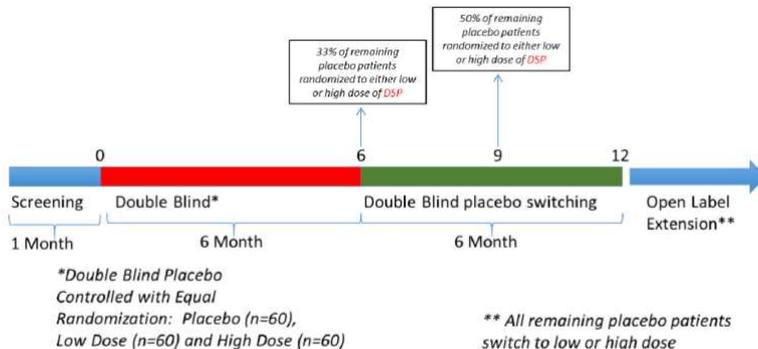
Ensayo fase III  
Centros participantes

**GEOGRAPHIC DISTRIBUTION**



**Ensayo fase III  
Esquema**

**Scheme of Pivotal Trial in AT**

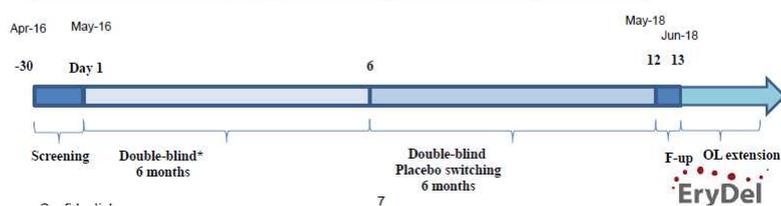


**Schedule of Visits and Assessments: 6-Month Initial Treatment Period**

Visit (V) #	Screening	V1	V2	V3	V4	V5	V6	V7	V8	V9
Study Day or Month (D/M) #	D-30 to -1	D0/1	D2	D15	M1	M2	M3	M4	M5	M6 (a,b)
Procedure		Pre(c)	Post(c)				Pre(c)	Post(c)		
Informed Consent Signature	X									
Medical History	X									
Inclusion/Exclusion Criteria (v)	X	X								
EDS-EP Infusion (h)		1			2	3	4	5	6	
Neurological Examination	X	X					X			X
Physical Examination	X	X	X		X	X	X	X	X	X
Vital Signs	X	X	X		X	X	X	X	X	X
ECG	X	X(d)					X			X
Routine Laboratory Tests (e)	X	X(d)					X			X
Bone Mineral Density		X								X
Serum Pregnancy Test (o)	X	X								X
ICARS (with video recording)	X(u)	X(u)					X			X
CGI-C							X			X
CGI-S	X	X					X			X
VABS		X					X			X
A-TNEST		X					X			X
Quality of Life (EQ-5D-Y)		X					X			X
C-SSRS		X								X
RBC osmotic resistance (l)	X	X					X			
Special Laboratory Tests	X(f)	X(f,g)	X(m)	X(m)	X(m)	X(m)				X(f,g)
Hemolysis Panel (s)		X	X	X	X		X	X		
Urinary Cortisol	X	X	X	X	X	X	X			X
Genetic AT diagnosis (q)	X									
Mini-ATM detection		X			X					X
Dexamethasone PK sample		X(i)	X(i)	X(i)	X(k)	X(l)	X(l)	X(l)	X(l)	X(l)
EDS and product sample		X			X	X	X		X	X
Prior/Concomitant Treatments	Throughout the duration of the study									
Adverse Events	Throughout the duration of the study									

## Projected Timelines

	Start Date	End Date
Study Start-Up	Ongoing	
Enrolment (12 months expected)	Apr-16	Apr-17
Treatment ( Last Day 1 to Last Month 12)	May-17	May-18
Last Month 6 visit		Nov-17
Follow-Up Period (last Month 13)	May-18	Jun-18
Final Lock Data	Jun-18	Jul-18
Final Stats Analysis	Jul-18	Aug-18
Final Clinical Study Report	Aug-18	Oct-18



### Ensayo fase III Medidas de eficacia

#### Ensayo fase III Medidas de eficacia

- Escala de ataxia (ICARS),
- escala de mejora global (CGI-S y CGI-C) ,
- escala adaptación personal y social (VABS) y
- escala de calidad de vida (EQ-5D-Y)