



## Vitamin D deficiency in children with DM1A in northern Spain



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### INTRODUCTION:

- 1,000 million people worldwide present vitamin D deficiency. In children, the prevalence of vitamin D deficiency is referred up to 80% in certain countries, especially at high latitudes (above 37°).
- Vitamin D role in the immune system and in DM1 clinical variability has been described.

### OBJECTIVE:

- To study deficit of VITD in children with DM 1 living in Alava (Location: 42° 51' north latitude 2° 41' west longitude) and check its influence in the metabolic control.

### MATERIAL & METHODS:

- Prospective open intervention.

- **Inclusion:** Patients with DM type 1a with at least 12 m. of evolution
  - First step of study (Abril-May 2014): **intervention** 6 months (sun exposure 3 m + treatment 3 m):
    - Intervention 3 m at summer: activities "outdoors"
    - Then **treatment** 3 months with 25.000 UI of colecalciferol (vitamin D), equivalent to 0,625mg (DELTIUS®)/1 every 3 weeks.



**Revaluation:**  
November-December 2014.

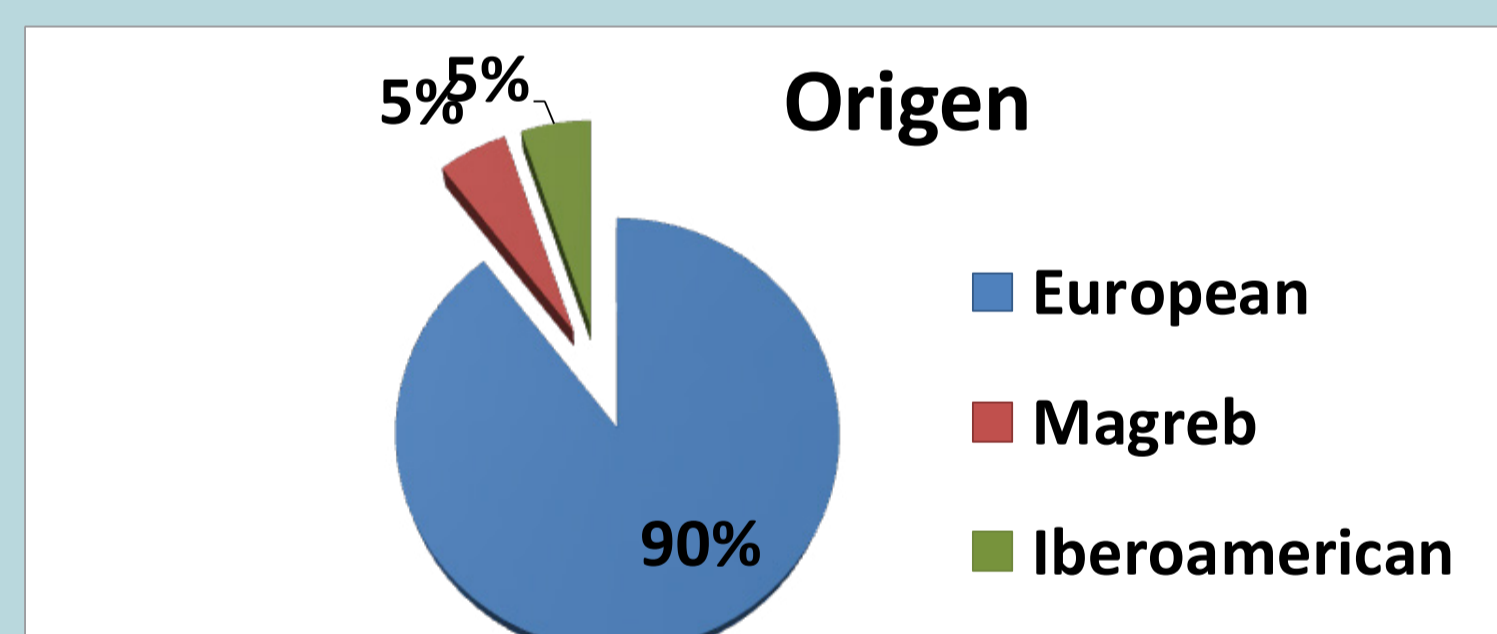
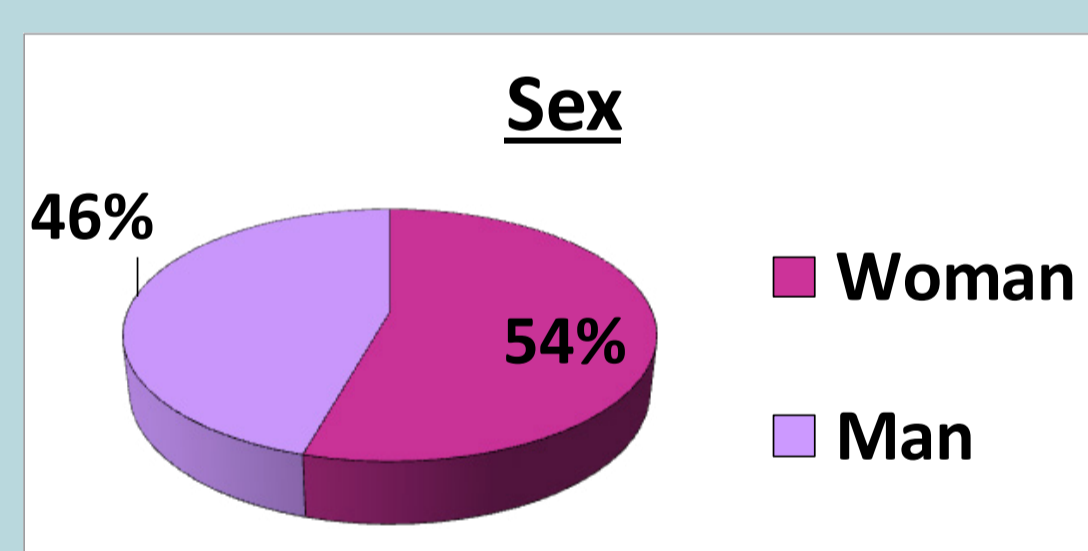


- **25-OH-Vitamin D levels** : insufficiency <30ng/ml.

- Statistic test study for parity (n<30) (Student t), with a confidence interval of 95%. SPSS 19.0

### RESULTS:

- **57 cases:**



- **At debut.**

- Average age: 8.24 years (DS 4.27 [0.3-15])
- HbA1c debut 11.11% (DS 2.37[8-15.5])

- **During this study:**

- Average age: 11.5 años (DS 3.67 [2-17])
- HbA1c media 7.95% SDS 1.16 [5.8-9.6]
- No differences between sex
- 93% with bolus-basal (4/57 ISCI).

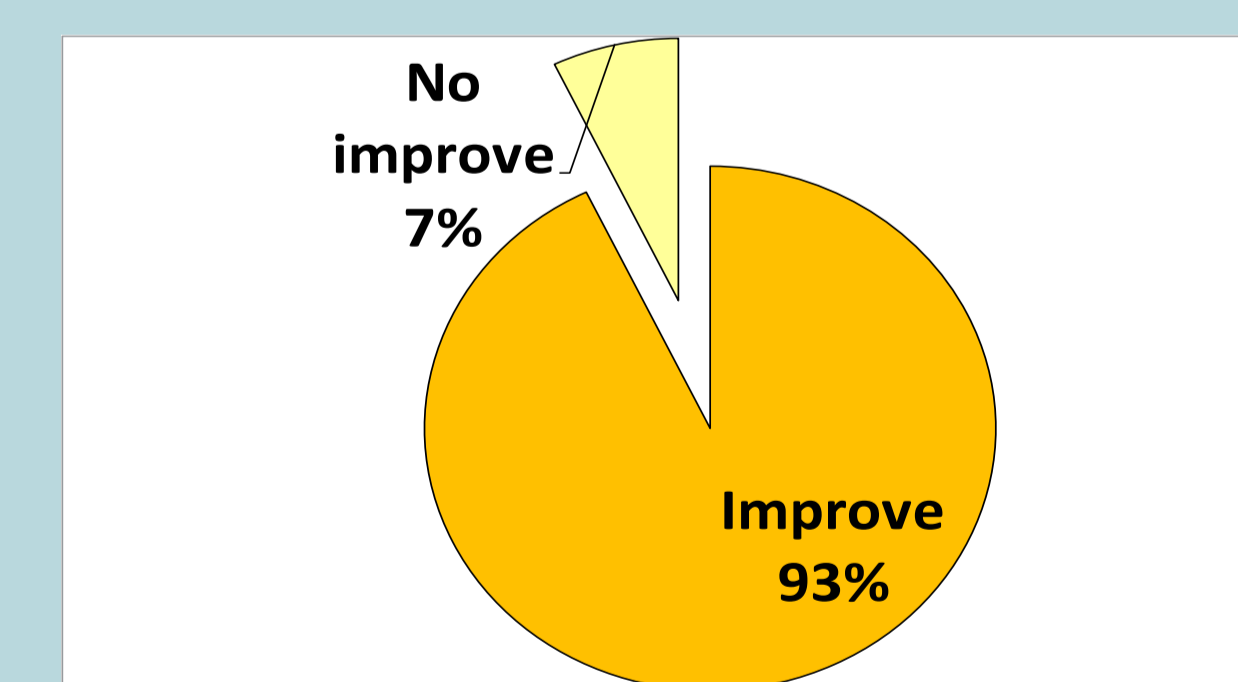
- **VITAMIN D:**

- **98% had deficit of vitamin D.**
- 25-OH vitamin D levels: media 18 ngr/ml (DS[10-28]).
- Normal: 1 case ; 12 years old European female (37 ngr/ml).



- **After treatment with VitD:**

- HbA1c: 7.68% (SDS 1.18 [5.6-9.2] p:0.12)
- 25OHD media 33 ngr/ml (DS[26-52] p:0.01)
- Improve: 52 cases (93%)



### CONCLUSIONS:

- **Children with DM1 in our region have an important deficiency of VitD.**
- The outdoor activities in summer and the treatment with depot preparations is effective in correcting this deficit. Although no significant improve in metabolic control has been observed.

