

## Introduction

**Neonatal Diabetes Mellitus ( NDM) is a rare form of diabetes**

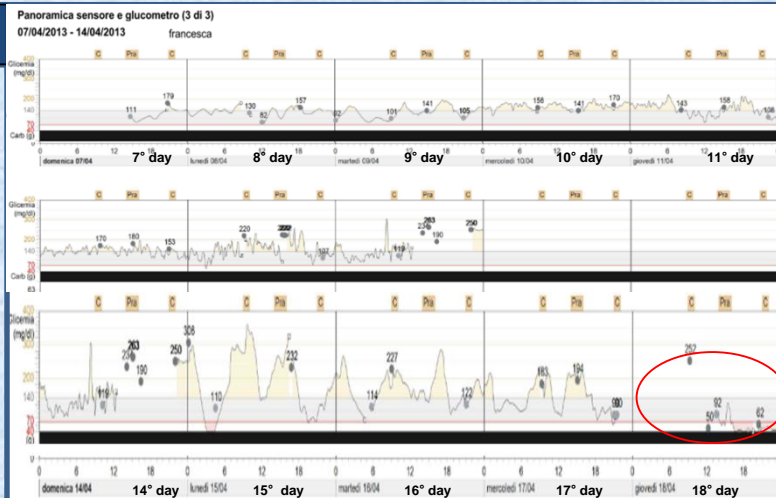
- Onset within the first 6 months of age
- Incidence of 1/90.000 live births
- Sub-classified in transient ( 50%) and permanent neonatal diabetes mellitus (PNDM)

## Case History

We present the case of a female patient with positive family history of **PNDM**, admitted to the Neonatal Unit. Father's diabetes was due to activating mutation of **potassium channels (KCNJ11-V59M mutation)** and, in view of the genetic risk, a glucose screening was performed. In the first week of life, sporadic hyperglycemic events were spotted and **continuous glucose monitoring (CGM)** was started.

- On day 11, because of persistent hyperglycemia (233-239 mg/dl) we started **glibenclamide** at the dosage of 0,33 mg/kg/day, which was doubled during the following days up to 0,65 mg/kg/day.
- On day 13, considering the poor glycemetic control and the weight loss, IV **insulin** was added (0,6 IU/kg/day), achieving a better control and weight gain.
- On day 17 molecular testing confirmed the same mutation of her father, so we attempted a **switching from insulin to glibenclamide**, doubling the dose of sulfonylurea and halving the insulin dose according to the CGM profile.

**Insulin was successfully stopped** in 4 days and the patient was **discharged on glibenclamide** (0,75 mg/kg/day administrated every 8 hours).



## Conclusions

**Approximately 90% of patients with activating mutations in KCNJ11 can be switched from insulin to sulfonylurea.**  
**In this case, starting glibenclamide in the first weeks of life didn't allow to reach a satisfying glycemetic control and gaining weight, though we did not reach during the first attempt the weaning dose of 0.75 mg/kg/day.**  
**For those reasons, should insulin therapy always be considered as first approach?**  
**The debate is still open...**

## References

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2. *Pediatr Diabetes*.2009;10(suppl 12):33-42. Hattersley A, Bruining J, Shield J, et al. **The diagnosis and management of monogenic diabetes in children and adolescents**
3. *Acta Diabetologia* 2012 Oct;49(5):405-8. doi: 10.1007/s00592-011-0331-8. Epub 2011 Sep 28. Iafusco D, Massa O, Pasquino B, Colombo C, Iughetti L, Bizzarri C, Mammi C, Lo Presti D, Suprani T, Schiaffini R, Nichols CG, Russo L, Grasso V, Meschi F, Bonfanti R, Brescianini S, Barbetti F Early Diabetes Study Group of ISPED **Minimal incidence of neonatal/infancy onset diabetes in Italy is 1:90,000 live births.**