



# Iron placebo for neonates: mission impossible



## Context:

- Iron substitution
  - great importance for preterm infants
  - but often leads to discomfort
- For a double-blinded non-inferiority RCT between daily vs every other day iron replacement, we needed a **placebo**
  - **difficult** because the color is set by the active ingredient
- We aimed to develop a placebo of Maltofer®

# Contract with a firm specialized in pharmaceutical production

## FORMULATION DEVELOPMENT

- Determination of placebo requirements
- Identification of suitable excipients
- Color/smell matching



## ANTIMICROBIAL EFFECTIVENESS TESTING

- Simulation of Maltofer® or Placebo drops administration by 12 nurses in double-blind conditions
- Nurses easily identified the placebo in real-life situations

➔ **Stop the development of the placebo after 1 year of collaboration and 35'000CHF**

## PRESERVATIVE ASSAY

## INVESTIGATIONAL MEDICINAL PRODUCT DOSSIER

## CLINICAL TRIAL MATERIAL (CTM) MANUFACTURING

**>150'000 CHF**

## LABORATORY TESTING OF THE PLACEBO FORMULATION



- 2 different placebo formulations proposed
- One more similar to Maltofer® in appearance but contained a food coloring agent controversial for its use in different countries

- Choose other formulation to maximize the chances of acceptance by Swissmedic
- **Final composition:** caramel color, cream flavor, potassium sorbate, sucrose, purified water

## ANTIMICROBIAL EFFECTIVENESS TESTING

## PROTOTYPE BATCH STABILITY

## CTM BATCH STABILITY

**>2 years**

**Unpredictable acceptance of the placebo formulation by Swissmedic**

# Conclusion

## Iron placebo for neonates: mission impossible

Complex, expensive in time and finances

Impossible, despite an available budget

No colored additives accepted by Swissmedic for neonatal research

Typical, largely under-reported and limits evidence-based medicine in such high-risk population





**Thank you for your attention**

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