

Thyroid Antibodies and Levothyroxine – The Tablet Trial

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Clinical Problem

- The relation between thyroid ab's and pregnancy outcome
 - Increased miscarriage in all populations
 - Increased pre-term birth in all populations
- Previous studies:
 - 2 studies by Negro et al ('05&'06) – use of low dose levothyroxine
 - In ART populations and other in women with previous miscarriage
 - Reduced miscarriage rate
 - Increased live birth rate
 - Wang et al 2017 – RCT of 600pts undergoing IVF treatment
 - Showed no difference in miscarriage rate

Methods

- Double blind randomized controlled trial – in UK
- Powered to detect 10% difference in LBR
- Inclusion: euthyroid women with positive TPO anti-bodies
 - Trying to conceive, awaiting fertility treatment
 - Early pregnancy 4-6w
- Intervention: 50 μ g levothyroxine
 - Preconceptual
 - early pregnancy
- Versus placebo
- Outcome: LBR >34weeks

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Results

- 952 women randomized
- 470 analyzed in each group
- No difference in baseline characteristics

- Primary outcome:
 - LBR ≥ 34 weeks 37.4% vs 37.9% (95%CI 0.83-1.14; $p=0.74$)
- Secondary outcome:
 - Miscarriage rate $< 24w$: 28.2% vs 29.6% (95%CI 0.73-1.23)

Putting this to practice

- Low-dose levothyroxine (50 μ g) – does not increase LBR in euthyroid women with TPO antibodies and a previous miscarriage or infertility
- So then we should ask:
 - Must we screen for antibodies in these women?
- We must re-think the underlying mechanism in these cases:
 - What about steroids?
 - IVIG?
 - Selenium?
- Issue of mild TSH elevation +/- antibodies not sorted out yet!

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