



Intermittent screening with rapid diagnostic tests and treatment with Dihydroartemisinin-Piperaquine for malaria in pregnancy: An individually pooled analysis

STOP-MIP (Kenya) & ISTp-Malawi (Malawi) Trials



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Intermittent Screening and Treatment in Pregnancy: Concept

- Provides scheduled screening for malaria using a malaria rapid diagnostic test (mRDT) and treating mRDT-positive women with a long acting ACT
- Ensures that only women with detectable malaria infection receive treatment

..... malaria infection heterogeneity in local geographical areas

- Clears existing infections
- Provides additional post-treatment prophylaxis for up to six weeks

Promising preliminary study from West Africa

OPEN ACCESS Freely available online



Intermittent Screening and Treatment versus Intermittent Preventive Treatment of Malaria in Pregnancy: A Randomised Controlled Non-Inferiority Trial

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- ISTp-AQ-AS non-inferior to IPTp-SP (2007-8)
Moderate to high malaria transmission
Low prevalence of SP resistance (**K540E <1%....2010-11**)
-potential of strategy in areas with high SP resistance

Pooled results of two ISTp-DP trials.....

STOPMIP (Kenya) - 2012

IPTp-SP vs. ISTp-DP vs. IPTp-DP

ISTp-Malawi (Malawi) - 2011

IPTp-SP vs. ISTp-DP



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Study overview

- Design
 - Open-label randomized controlled superiority trials
 - HIV negative women from 16-32 weeks gestation
 - Singleton pregnancies
- Study sites:
 - All women used insecticide-treated bed nets
 - High transmission, high SP resistance
- Malawi: 3 sites southern Malawi
 - Transmission: PfPr 2-10 years, 2010= 0.394
 - Resistance: 100% *dhfr/ dhps* quintuple mutant; 1.5% *Pfdhps*-A581G (sextuple)
 - Sample size: 1,844, 2 arms (922 per arm)
- Kenya: 4 sites western Kenya
 - Transmission: PfPr 2-10 years, 2010= 0.565
 - Resistance: 96% *dhfr/ dhps* quintuple mutant; 5.8% *Pfdhps*-A581G (sextuple)
 - Sample size: 1,554, 3 arms (515 per arm)



Interventions and follow-up schedule

- Interventions:

IPTp-SP arm: 3 tablets SP (500mg/25 mg), stat

ISTp-DP arm: HRP-2/ pLDH combo RDT.....RDT+, standard 3-day course of DP

- DP: Euartesim, Sigma Tau, Italy, 40mg/320 mg tablets

		Number of tablets administered per dose				
		2	2.5	3	3.5	4
Weight (kg)	Kenya	24-35.9		36-74.9		≥75
	Malawi		<50	50-59	60-69	≥70

Kenya: Drug dosing based on weight at enrollment

Malawi: Drug dosing based on weight at time of dosing

- Samples: **RDT** (ISTp routinely, IPTp only at delivery); **Microscopy** (maternal peripheral blood, placental incision, cord); **PCR**; **Haemoglobin** (last ANV); **Placental histology** (delivery)

Summary of findings

- ISTp-DP not superior to IPTp-SP. Associated with:

Higher risk of any malaria infection at delivery (esp.G3+)

Higher risk of any malaria infection during pregnancy

Higher risk of placental malaria

Lower birth weight in paucigravidae

Suggested higher risk of any adverse live birth outcome

- However

DP well tolerated

Screening and treatment well received by clients and staff

Conclusion

- Results should be equally relevant to other areas in east and southern Africa with similar or lower levels of parasite SP resistance.
- No indication to change policy in non-super resistant settings until viable alternative is found.
- IPTp appears to remain a viable strategy but need for safe and efficacious drug to replace SP
- **Urgent investigation of promising alternative(s) required**

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