

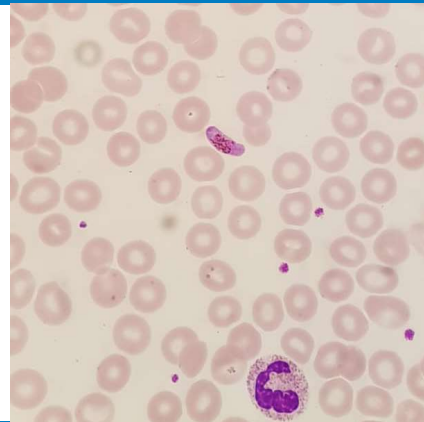
Sexual healing – treatment of a gametocyte-only malaria patient.

Dr. B.C. Mourik



AIOS MMB

21-09-2021



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Dag 1

Komt een 51-jarige man met blanco VG bij de huisarts...

Sinds 4 dagen	diffuse hoofdpijn
	gewrichtspijn
	malaise
	neiging tot braken
	<u>geen koorts</u>

B/ lab

2

Dag 4

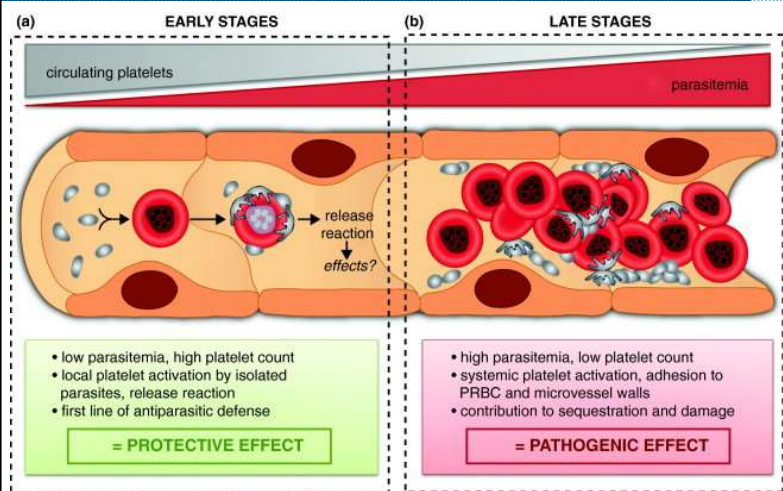
Lab uitslagen:

Leuko's **5.8**
Hb **8.3**
Trombo's **70**
CRP **22**

B/ poliklinische verwijzing hematologie voor dd ITP

3

Intermezzo – trombocytopenie & Malaria



Drug Discovery Today: Mechanisms

Wassmer et al 2011

4

Dag 8

Poli hematologie

Extra anamnese

- Afkomstig uit Sierra leone, sinds 20j in NL.
- 3 weken geleden retour Nigeria ivm familie bezoek.
- 2 weken geleden start hoofdpijn.

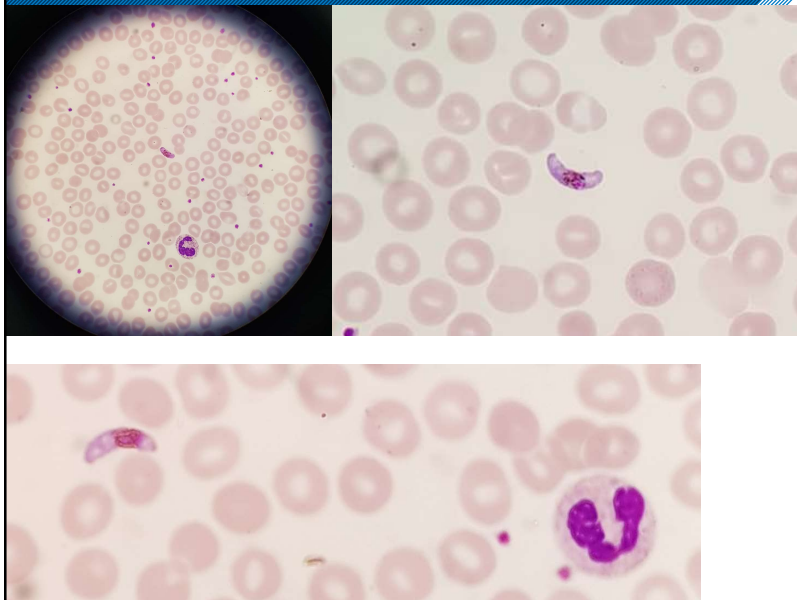
Nieuw lab/

Leuko's	5.8	→ 12.2
Hb	8.3	→ 7.1
Trombo's	70	→ 260
CRP	22	→ 19



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Klinisch chemisch lab



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Dag 8 - avond

Klinisch: ziek ogende patient met forse hoofdpijn

Microbiologie

Malaria sneltest

positief

QBC

positief, tevens pigment.

Klinisch:

Obv kliniek pragmatisch 1 gift artesunaat iv.
Daarna start artemether/lumefantrine.

Microbiologie

Dikke druppel

0% (alleen gametocyten)

Malaria PCR

Ct 26

Klinisch

‘In verleden vaker malaria gehad, altijd mild beloop’.

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Verder beloop

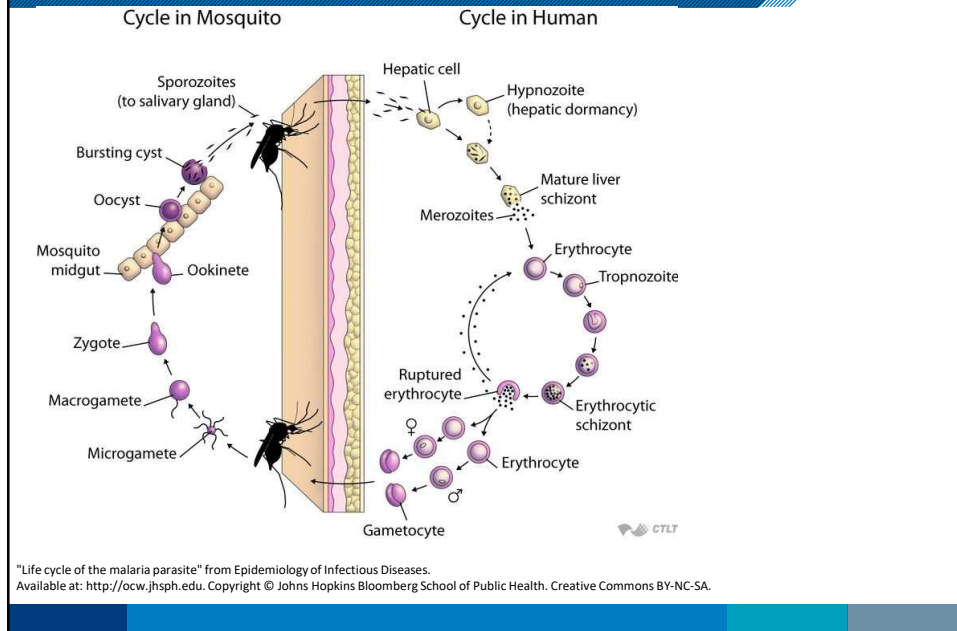
Dag 9 ontslag met p.o. medicatie

Dag 12 Ct 27 (QBC pos, morfologie pos)

Dag 20 Ct 35 (QBC pos, morfologie pos), einde behandeling

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De rol van de gametocyt

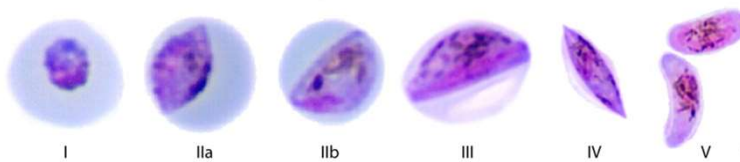


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De gametocyt - vervolg

Gemiddeld 9-12 dgn maturatie

Formation and maturation of *P. falciparum* gametocytes



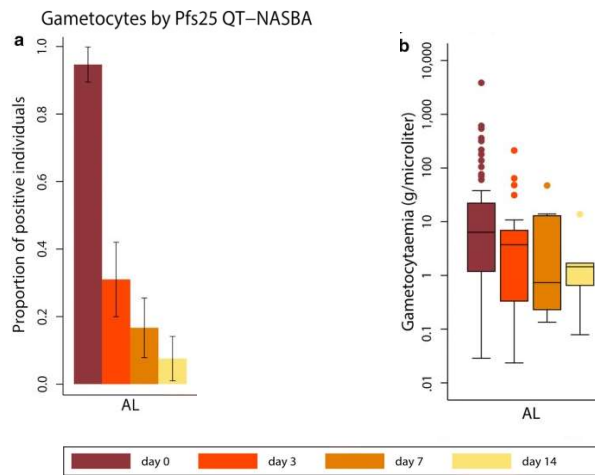
Gemiddeld 6 dgn circulatie (max 22 dgn).

3-6 weken na behandeling asexuele stadia nog gametocyten in circulatie.

Bousema et al, CMR 2011.
Beri et al, Parasitology, 2018

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Effect behandeling op gametocyten



Roth et al, Malar J, 2018

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WHO recommendation

In low transmission areas, give a single dose of 0.25 mg/kg primaquine with ACT to patients with *P. falciparum* malaria (except pregnant women, infants aged < 6 months and breastfeeding women of infants aged < 6 months) to reduce transmission. Testing for G6PD deficiency is not required.

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Asymptomatische of chronische malaria?



ARTICLE

<https://doi.org/10.1038/s41467-021-22573-7>

OPEN

Check for updates

Higher gametocyte production and mosquito infectivity in chronic compared to incident *Plasmodium falciparum* infections

Aissata Barry^{1,2,7}, John Bradley^{3,7}, Will Stone^{4,7}, Moussa W. Guelbeogo¹, Kjerstin Lanke², Alphonse Ouedraogo¹, Issiaka Soulama¹, Issa Nèbié¹, Samuel S. Serme¹, Lynn Grignard⁴, Catriona Patterson⁴, Lindsey Wu⁴, Jessica J. Briggs⁵, Owen Janson⁵, Shehu S. Awandu², Mireille Ouedraogo¹, Casimire W. Tarama¹, Désiré Kargougou¹, Soumanaba Zongo¹, Sodiomon B. Sirima¹, Matthias Marti⁶, Chris Drakeley³, Alfred B. Tiono¹ & Teun Bousema^{2,6*}

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Asymptomatische of chronische malaria?

- Studie in Burkina Faso
- 253 kinderen gescreend, 80 bewezen negatief.
- 65% van parasiet-vrije individuen positief in 4 weken.
- N=48 incident infection cohort.
- N=60 chronic infection cohort.
- Gametocyten:
 - 6% incident infection → 35% in follow up
 - 97% chronic infection → 100% in follow up.
- Besmettelijkheid (mosquito feeding assay)
 - 2/34 incident infection besmettelijk
 - 28/60 chronic infection besmettelijk
 - (nog wel sterk heterogeen tussen personen)

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PLOS MEDICINE

Ingrid Chen¹, Siân E. Clarke², Roly Gosling^{1*}, Busiku Hamainza³, Gerry Killeen^{4,5}, Alan Magill⁶, Wendy O'Meara⁷, Ric N. Price^{8,9}, Eleanor M. Riley¹⁰

-
- Increasing risk of morbidity, co-morbidity, mortality and onward transmission
- Pyrogenic threshold
- Detection limit with RDT or microscopy
- Detection limit with PCR
- INDIVIDUAL INFECTIONS FLUCTUATE ACROSS A RANGE OF PARASITEMIAS
- Increasing parasitemia (log scale)
- CHRONIC, AFEBRILE AND ONLY MILDLY SYMPTOMATIC
- ACUTE AND SYMPTOMATIC, INCLUDING FEVER

LMC Leids Universitair
Medisch Centrum

A portrait of Marvin Gaye with a beard, wearing a red and blue jacket, looking slightly to the side. The text "MARVIN GAYE" is at the top in white, and "Sexual Healing" is written in a stylized red font on the right.

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