

Introduction /background:

- ❖ *Plasmodium falciparum* infected erythrocytes (IEs) in pregnant women can be sequestered in the placenta and this leads to placental malaria which might endanger the both mother and foetus lives [1], [2], [3].
- ❖ The sequestration of these infected erythrocytes in the placenta tissue would be at the origin of imbalance of the secretion's profile of chemokines and cytokines at this site.
- ❖ Chemokine CXCL-10 has the particularity to act mainly on the T helper cells 1 by attracting them on the infected sites [4] and, Interleukin IL-19 stimulates the production of T helpers cells 2 which down regulate the exaggerate action of pro inflammatory cytokines [5].

Aims:

This study aimed to determine the effects of the chemokine CXCL-10 and the cytokine IL-19 in the pathogenesis of placental malaria.

Methods:

- After obtaining an Ethical Clearance, peripheral and placental blood and, a biopsy of placental tissue (for impression smear) were collected just after delivery from 140 women (infected or no).
- Parasitemia and leukocyte differential counts were determined microscopically, and Hemoglobin levels were measured with Hemocue.
- Plasma concentrations of CXCL-10 and IL-19 were measured by ELISA method.
- Statistical analysis was performed using Sigma Stat software and the difference was significant for $P < 0,05$.

Results :

- The proportion of pregnant women at delivery who had placental malaria was 19.3 %.

➤ About CXCL-10

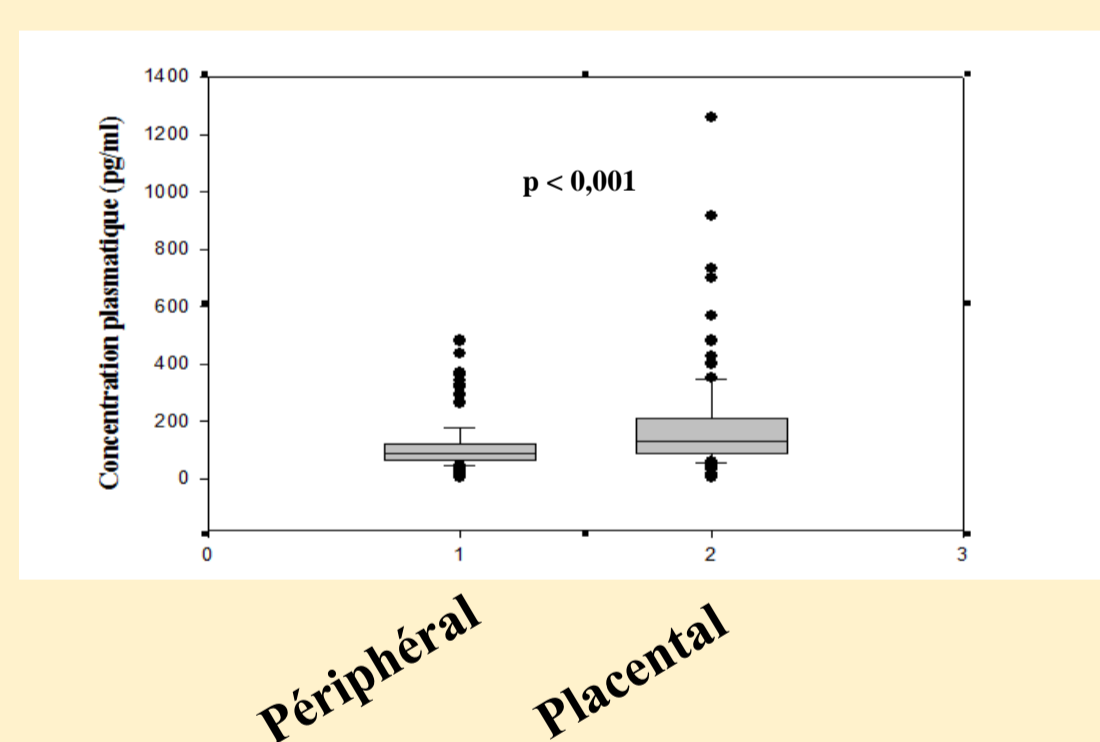


Figure 1 : Comparison between plasmatic peripheral and placental level of CXCL-10.

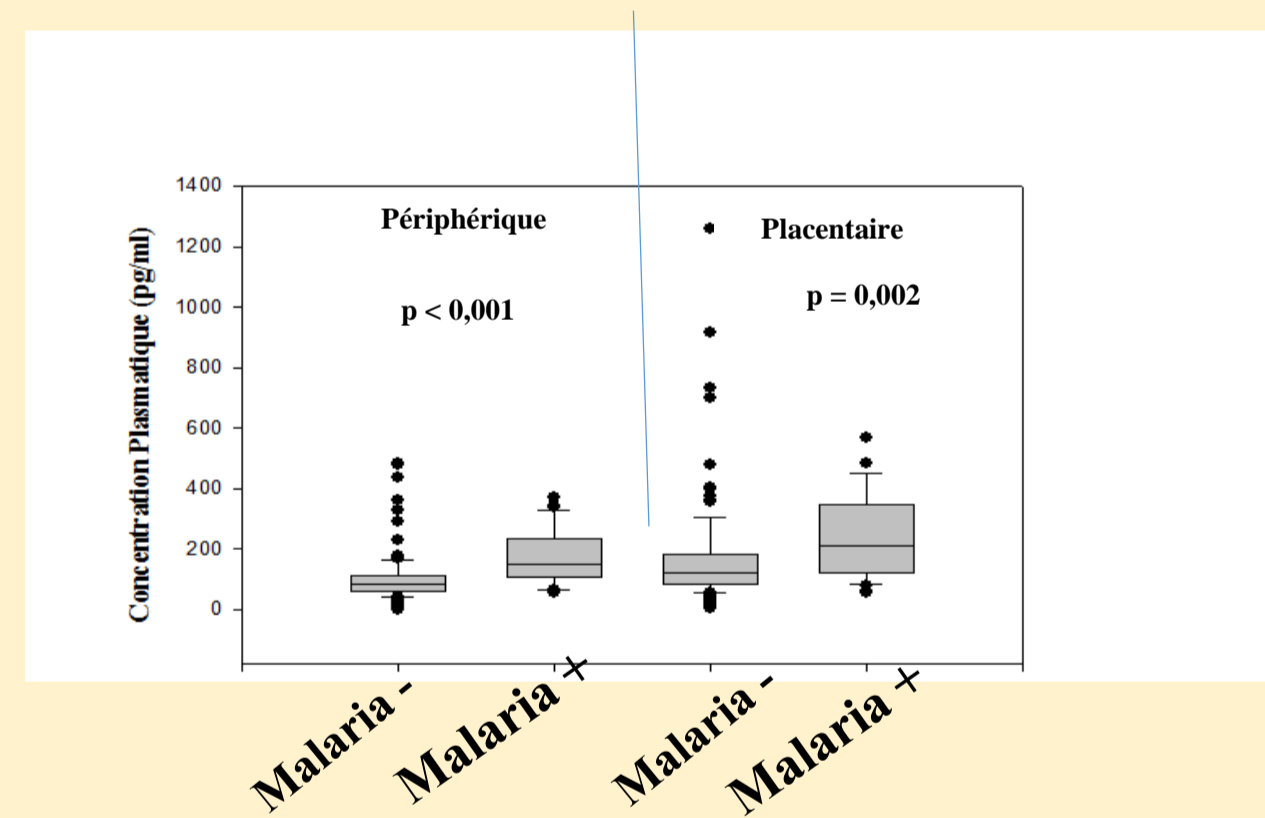


Figure 2: Peripheral and placental levels of CXCL-10 were significantly higher in the infected women than the non-infected.

Some placental leukocytes	CXCL-10			
	Peripheral		Placental	
	rs	Valeur de P	rs	Valeur de P
Monocytes impression	0,19	0,02	0,17	0,04
Lymphocytes impression	0,25	0,03	0,09	0,24
Neutrophiles impression	- 0,37	<0,001	-0,20	0,02

Correlation between some placental leukocytes and CXCL-10

- **About IL-19:** There was no significant relationship between IL-19 levels and malaria infection and leukocytes count, although its level was higher in placenta than peripheral plasma, it was not significant ($p=0.54$).

Conclusion:

These results suggest that the chemotactic effect of chemokine CXCL-10 might lead to the protection of mothers living in Yaoundé against the pathogenesis of this disease through the attraction of monocytes and lymphocytes into the placenta. For more information, see Megnekou et al., 2015. Acta tropica.

References:

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