別紙1

旅行記録書
（実績報告書添付用）

研究課題名	マラリアの感染予防及び治療に関する研究
渡航者・所属機関名	狩野 繁之・国立国際医療センター研究所
主任研究者名・所属機関名	狩野 繁之・国立国際医療センター研究所

渡航目的及び成果（全体）

2005 年 9 月 11～15 日の日程で、フランス・マルセイユで開催される第 16 回国際熱帯医学・マラリア学会に参加し、当該申請研究で得られた研究成果を発表し（Shigeyuki Kano, Shin-ichiro Kawazu, Kanako Komaki-Yasuda, Kazuhiko Yano, Sornchai Looareesuwan, Kenjiro Konno, Toshimitsu Hatabu, Nao Taguchi, Kumiko Sato, Hiroyuki Oku, Ryoichi Katakai, and Mamoru Suzuki: Malaria vaccine candidate using enolase antigen of *Plasmodium falciparum*. ）、参加者と議論を交わすことで当該研究テーマにかかる情報の収集を図ることを目的とした。世界中から主なマラリア研究者が集まる本学会で、われわれの研究業績のプレゼンスを示し、また質疑においては、今後ヒトへのワクチン投与にかかる実現性に関して議論できたことは、本申請研究課題の成果の充実に大いに資するところである。

日程（実績）	出発地	到着地（宿泊地）	訪問機関名 訪問者名等	用務の概要（個別欄）
9／10	成　田	マルセイユ		
9／11 ～ 9／15	マルセイユ	マルセイユ	SOCIETE DE PATHOLOGE EXOTIQUE	マラリアの予防の切り札であるワクチン開発に関わる研究成果の発表を行い、参加者との討議を重ねることで、わが国からの渡航者の感染予防及び治療に関する研究成果の充実を図ることができた。
9／16	マルセイユ	機中泊		
9／17	機中泊	成　田		

旅費積算内容内訳

※国際学会等において、当該研究の研究成果の発表を行った場合には、発表スケジュールの入ったプログラム等の写しを添付すること。

別紙1

旅行記録書
（実績報告書添付用）

研究課題名	マラリアの感染予防及び治療に関する研究
渡航者・所属機関名	松本 芳嗣・東京大学農学生命科学研究科応用免疫学教室
主任研究者名・所属機関名	狩野 繁之・国立国際医療センター研究所適正技術開発移転研究部

渡航目的及び成果（全体）

2005年9月の11日～15日の日程で、フランスのマルセイユにて行われる第16回国際熱帯医学およびマラリア学会に参加し、これまでに得られた研究成果を発表した。（演題：Experimental severe falciparum malaria in squirrel monkey, MRP8/14 as a marker for severity in falciparum malaria, の2題で発表）

日程（実績）	出発地	到着地（宿泊地）	訪問機関名 訪問者名等	用務の概要（個別欄）
9／10	成田	マルセイユ		
9／11 ～ 9／16	マルセイユ	マルセイユ	SOCIETE DE PATHOLOGE EXOTIQUE	マラリアの治療のモデル動物となるサルを用いた重症マラリアの研究成果を発表し、参加者との討議を重ねたことで、我が国からの渡航者のマラリア治療に関する情報を収集した。
9／17	マルセイユ	機中泊		
9／18	機中泊	成田		

旅費積算内容内訳

※国際学会等において、当該研究の研究成果の発表を行った場合には、発表スケジュールの入ったプログラム等の写しを添付すること。

別紙１

旅行記録書
（実績報告書添付用）

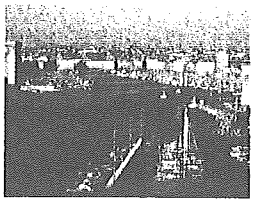
研究課題名	マラリアの感染予防及び治療に関する研究
渡航者・所属機関名	木村　幹男・国立感染症研究所感染症情報センター
主任研究者名・所属機関名	狩野　繁之・国立国際医療センター研究所適正技術開発移転研究部

渡航目的及び見込まれる成果（全体）

マラリア予防、特に予防内服の適応については、担当する医療従事者の考えにより、一貫しない傾向がある。そのため、特にヨーロッパ諸国では、国あるいは地域単位でのマラリア予防ガイドラインを作成し、できるだけ一律に行われるようなシステムを構築している。本研究班でも、わが国におけるマラリア予防ガイドラインの初版を作成したが、今後の改訂のためには、ヨーロッパ諸国のガイドライン、その考え方などを知る必要がある。また、マラリア予防が適切に行われるかどうかは、旅行者の意識による部分が大きい。一般に日本人旅行者は、抗マラリア薬を用いる予防（予防内服、スタンバイ治療）に消極的であると言われているが、その現状が改善し得るものかどうかを検討する必要がある。

今回の訪問者はいずれも各国の代表的立場であるで、上記の目的を間違いなく達することができると思われた。

日程（実績）	出発地	到着地（宿泊地）	訪問機関名 訪問者名等	用務の概要（個別欄）
12/4 ～ 12/5	成田	ジェネーブ	ジュネーブ州立大学病院旅行医学部門 Louis Loutan 博士	特にスイスで問題となっている、移民におけるマラリアの問題について検討した。さらに、スイスにおけるマラリアの主要な治療方法につき、情報提供を受けた。
12/6	ジュネーブ	チューリヒ	チューリヒ大学旅行医学部門 Robert Steffen 教授	スイスのマラリア予防ガイドラインに関する情報提供を受け、実際に旅行医学診療に参加して、具体的な場面でどのようなアドバイスを行なっているかを体得した。
12/7 ～ 12/8	チューリヒ	ベルリン	ベルリン熱帯医学研究所旅行医学部門 Tomas Jelinek 副所長	ドイツにおけるマラリア予防ガイドラインにつき情報提供を受けた。さらに、ベルリン市内にある熱帯医学研究所のトラベルクリニック、およびその分室を見学し、ドイツ人旅行者のマラリア予防に関する意識を知ることができた。
12/9	ベルリン	機中泊		
12/10	機中泊	成田		



MEDICINE AND HEALTH IN THE TROPICS
Marseille - France
11-15 September 2005

CERTIFICATE OF ATTENDANCE

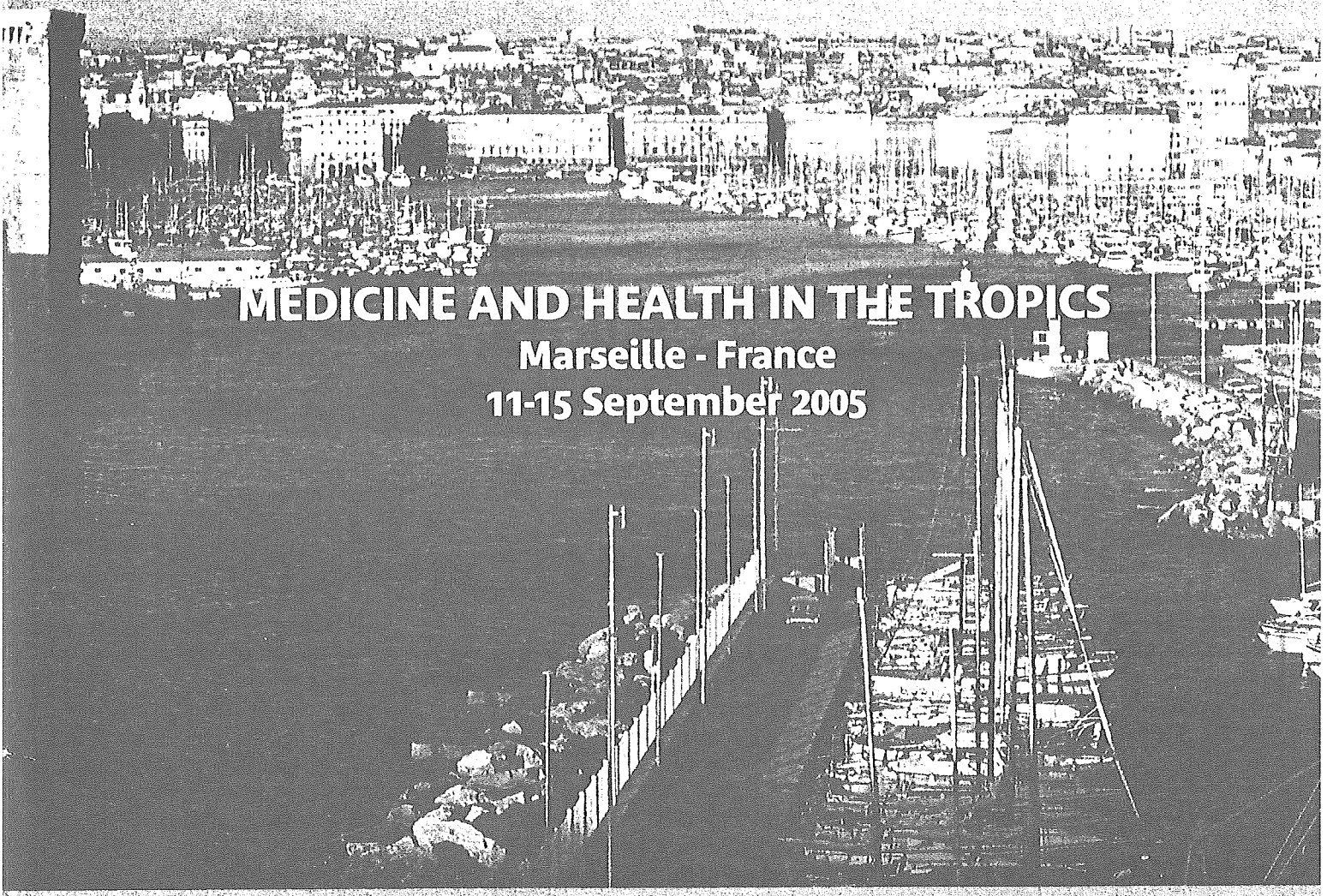
The Organizing Committee certifies that

Mr. Shigeyuki KANO

attended the congress
Medicine and Health in the Tropics
that took place in Marseille France
from September, 11 to 15, 2005.

The Organizing Committee

Sous le haut patronage de
Monsieur Jacques Chirac
Président de la République



MEDICINE AND HEALTH IN THE TROPICS

Marseille - France
11-15 September 2005

XVIth International Congress for Tropical Medicine and Malaria

IVth European Congress on Tropical Medicine and International Health

VII^{e} Congrès International de la Société de Pathologie Exotique

Centenaire de l'Institut de Médecine Tropicale du Service de Santé des Armées

SOCIETE DE PATHOLOGIE EXOTIQUE

FINAL PROGRAM

gramme

WEDNESDAY SEPTEMBER 14

08:30 – 10:00

Pharo Auditorium

Plenary session V

Chairs: *M. Cappello - USA, J.-E. Touze - FRANCE*

Keynote speakers:

- The quest for an HIV vaccine. *A la recherche d'un vaccin contre le VIH. M. Girard - FRANCE*
- Development and maintenance of a competitive scientific research capacity in the field of tropical diseases in sub-Saharan Africa: utopia or reality? *Développement et maintien d'une capacité de recherche scientifique compétitive dans le domaine des maladies tropicales en Afrique sub-saharienne : utopie ou réalité ? O. Doumbo - MALI*
- A family of new vaccines against flavivirus infections. *Une nouvelle famille de vaccins contre les infections à flavivirus. T. Monath - USA*
- Combating tropical infectious diseases and the disease control priorities project: a convergence of science, epidemiology and economics. *La lutte contre les maladies tropicales et les priorités de contrôle des maladies : une convergence de la science, de l'épidémiologie et de l'économie. J. Breman - USA*

MPM Room

Clinical case presentations 3

E. Pichard - FRANCE, N. Beeching - UK

IMTSSA Room

Workshop 19

Nomad health and zoonoses

Chair: *P. Craig - UK*

Speakers:

- Transectoral health and zoonoses control in developing countries. *J. Zinsstag - SWITZERLAND*
- Control options for echinococcosis in African and Asian nomadic communities. *P. Craig - UK*

University Auditorium

Workshop 20

Moving beyond the status quo: improved diagnostic and treatment for tropical diseases

Chair: *K. Laouabdia Sellami - FRANCE*

Keynote speakers:

D. Berman - FRANCE, J.-M. Kindermans - BELGIUM, M. Balasegaram - THE NETHERLANDS

Room 120

Workshop 21

Climate, landuse change and infectious disease in the Sahel

Chair: *M. Thomson - USA*

Speakers:

- Climate, landuse change and infectious disease in the Sahel. *M. Thomson - USA*
- Climate and malaria in Niger. *I. Jeanne - NIGER*
- Meningococcal meningitis and climate in West Africa. *L. Cuevas - UK*
- Contribution of GIS to the monitoring of malaria epidemics in Mali. *N. Sogoba - MALI*

Room 92

Workshop 22

Final push for dracunculiasis eradication

Chair: *M. Karam - SWITZERLAND*

Speakers:

A. Tayeh - SWITZERLAND, S. Cairncross - UK

10:00 – 10:30

COFFEE BREAK / POSTER VIEWING EXHIBITION

10:30 – 12:30

Pharo Auditorium

Young investigators presentations - Prix de thèse de Médecine

- Université Française

- Université Francophone

Chairs: *P. Saliou - FRANCE, D. Warrell - UK*

Speakers:

- Insecticide-repellent mixture: a promising tool for mosquito control. *C. Pennetier - FRANCE*
- Asymptomatic carriage of serogroup W135 meningococcus in Niamey (Niger): relationship with acquired protective immunity. *R. Borrow - NIGER*

gramme

- First isolation of nipah virus in Cambodia, in Lyle's flying fox. *D. Counor - FRANCE*
- IFN-Gamma polymorphisms are associated with severe hepatic fibrosis in human hepatic schistosomiasis (Schistosoma mansoni). *C. Eboumbou - USA*
- Evaluation of a HIV care program implemented in 13 sub-Saharan Africa countries. *S. Grigioni - FRANCE*
- High grade chloroquine resistant Plasmodium vivax in Papua, Indonesia: potential for amodiaquine as salvage therapy. *A. Ratcliff - AUSTRALIA*
- Experimental severe falciparum malaria in squirrel monkey. *N. Arakaki - JAPAN*
- Short term tonometric results after deep sclerectomy and external trabeculectomy in black africans. *S-M. Seck - SENEGAL*
- Population biology of multispecies helminth infection: interspecific interactions and parasite distributions. *C. Bottomley - UK*

MPM Room

Genetics of resistance and susceptibility to malaria

Chairs: *R. Bayoumi - OMAN, C. Plowe - USA*

Keynote speakers:

- Role of host and parasite genetics in anti-malarial drug resistance. *A. Djimde - MALI*

Speakers:

- Analysis of single-nucleotide polymorphisms of resistance genes among Plasmodium falciparum isolates from two endemic regions of Colombia. *A. Maestre - COLOMBIA*
- Immunologic and parasitic factors involved in malaria susceptibility in two sympatric ethnic groups in Mali. *C. Arama - MALI*
- Environmental versus familial risk factors for severe malaria in children living in Bamako, Mali. *S. Ranque - MALI*
- Molecular genotyping in antimalarial combination therapy trials conducted in Sub-Saharan Africa: adjustment of parasitological cure rates and assessment of effectiveness. *P. Olliaro - TANZANIA*
- An evaluation of drug sensitivity and genetic diversity of P. vivax in Calcutta, India. *J.R. Kim - THAILAND*
- Associations between frequencies of a susceptible TNF-alpha promoter allele and protective Alpha-Thalassemias and malaria parasite incidence in Vanuatu. *R. Ubalee - JAPAN*

IMTSSA Room

Drugs for neglected diseases

Chairs: *C. Hodgkin - NETHERLANDS, B. Pecoul - SWITZERLAND*

Keynote speaker: *N. White - THAILAND*

Speakers:

- Safety, efficacy and pharmacokinetics of artesunate and amodiaquine in fixed formulation VS. loose formulation in the treatment of mild and uncomplicated malaria. *S.B. Sirima - BURKINA FASO*
- Safety and efficacy of a new artesunate-mefloquine co-formulation for the treatment of acute, uncomplicated falciparum malaria a randomised trial. *E. Ashley*
- Combining existing drugs for the treatment of human African trypanosomiasis. *G. Priotto - FRANCE*
- Combination therapy for visceral leishmaniasis. *S. Sundar*
- Leishmaniasis east Africa platform: the network and preliminary results of the paromomycin trial. *M. Wasunna*
- A new paradigm for neglected diseases: partnerships to develop both new drugs and R&D capacities in the concerned countries. *P. Millet - FRANCE*

University Auditorium

Multi-drug resistant tuberculosis in the tropics

Chairs: *J.C. Palomino - BELGIUM, E. Gotuzzo - PERU*

Keynote speaker:

- Multidrug resistant tuberculosis in the tropics. *I.C. Shamputa - BELGIUM*

Speakers:

- Bactericidal activity of R207910, a diarylquinoline, against Mycobacterium leprae in mice. *V. Jarlier - FRANCE*
- Dihydropteroate synthase mutations (FOLP1 gene) predict dapsone resistance in relapsed cases of leprosy. *V. Jarlier - FRANCE*

- Is the rapid detection of rifampicin resistance of Mycobacterium leprae feasible in Madagascar? *V. Rasolofo - MADAGASCAR*
- Drug resistence for Mycobacterium tuberculosis isolates in the instituto de infectologia Emilio Ribas. *E. Boccardo - BRAZIL*
- Effects of immunity on outcomes during tuberculosis chemotherapy: a review. *B. Anwar - ALGERIA*

Room 120

Malaria and dengue vector control

Chairs: *D. Fontenille - FRANCE, H. Townson - UK*

Speakers:

- Aedes albopictus - transmitted dengue in the Kerala State, south India, with emphasis on possible pathways of distribution of dengue and its vectors. *B.K. Tyagi - INDIA*
- Genetic variability of Aedes aegypti, the main dengue vector in Cambodia. *C. Paupy - FRANCE*
- Spatial approach of the most productive breeding sites for Aedes aegypti using gis and remote sensing. *P. Barbazan - THAILAND*
- The unbearable lightness of technocratic solutions to Aedes aegypti control. *M-E. Toledo-Romani - BELGIUM*
- Focal study on genetic variability and insecticide resistance in Venezuelan populations of Aedes aegypti. *Y. Rubio-Palis - VENEZUELA*
- Aedes aegypti size estimation from different types of water containers in playa, Havana city, Cuba. *S. Surez - BELGIUM*
- Microdissection of polytene chromosomes for vector genomics. *R. Post - UK*

Room 92

Pathogenesis of anaemia in the tropics

Chair: *N. Van Den Broek - UK*

Keynote speaker:

N. Van Den Broek - UK

Speakers:

- The ring-surface protein RSP2 a trigger of P. falciparum anemia. *C. Layez - FRANCE*
- Aetiology of anaemia in children aged 8 to 72 months in rural Cambodia. *D. Monchy - CAMBODIA*
- Ultrastructural investigation of red cell deformation in severe malaria. *E. Pongponratn - UK*
- Severe anemia at "Hôpital principal de Dakar". Prospective study about 361 cases (preliminary report). *A.R. Ndiaye - SENEGAL*
- Distribution of mixed infection from schistosomes, soil transmitted helminths and P. falciparum, in primary school Zimbabwean children: impact on anaemia, nutrition status and the role of integrated school based malaria, helminthiasis control and health education. *N. Midzi - ZIMBABWE*
- Intestinal parasites and anaemia among school age children in Behera governorate, Egypt. *F. Curtale - ITALY*

Room 50

SWAPs and health sector reform

Chairs: *A. Green - UK, K. De Koning - THE NETHERLANDS*

Keynote speaker:

Y. Pillay - SOUTH AFRICA

Speakers:

- Colombia and Cuba, contrasting models in Latin America's health sector reform. *P. De-Vos - BELGIUM*
- How to scale up human resources for global health initiatives? *B. Schreuder - THE NETHERLANDS*
- Community - based monitoring of the evolution of death burden due to tropical diseases in a rural area of Ecuador. *G. Tognoni - ECUADOR*
- Public private initiatives and health systems development: synergy or antagonism? *J. Koot - THE NETHERLANDS*
- Translations of health sector SWAPs a comparative study of health sector development cooperation in Uganda, Zambia and Bangladesh. *J. Sundewall - SWEDEN*
- Feasibility of SWAP in the post-Soviet context. *T. Mirzoev - UK*

12:30 – 14:00

LUNCH / POSTER VIEWING / EXHIBITION

14:00 – 16:00

Pharo Auditorium

Plenary session VI

Chairs: *J. Roux - FRANCE, S. Mas Coma - SPAIN*

Keynote speakers:

- Making the difference to health: resolving the HR crisis in resource deprived settings. *Faire la différence dans la santé : résoudre la crise des ressources humaines dans des conditions difficiles. D. Dovlo - GHANA*

- Recent studies on cysticercosis and taeniosis due to Taenia solium. *Etudes récentes sur la cysticercose et les infections par Taenia solium.* *A. Flisser - MEXICO*
- Gender and infectious diseases. *Sexe et maladies infectieuses.* *S. Theobald - MALAWI*
- Influenza in the tropics. *La grippe sous les tropiques.* *J.-C. Manuguerra - FRANCE*

MPM Room

Molecular biology of malaria parasites

Chairs: *A. Scherf - FRANCE, D. Wirth - USA*

Keynote speaker:

- Molecular interactions in red cell invasion and cytoadherence by malaria parasites: opportunities for intervention. *C.E. Chitnis - INDIA*

Speakers:

- Detection of a minority mutant population by a clamping probe assay using a locked nucleic acid: demonstration on the PFCRT K76T mutation of Plasmodium falciparum. *A. Berry - FRANCE*
- Polymorphisms in the PFCRT gene and amodiaquine resistance in Colombian P. falciparum isolates. *L. Osorio - SWEDEN*
- Structured African Plasmodium falciparum populations: new markers, new evidence. *H. Bogreau - FRANCE*
- DNA fragmentation and phosphatidylserine externalization during Plasmodium falciparum apoptosis. *C. Barnadas - FRANCE*
- Tagging of normal erythrocytes with Plasmodium falciparum rhoptry proteins induce cell rigidification: implications for the physiopathology of severe malaria. *Y. Sterkers - FRANCE*

IMTSSA Room

Leishmaniasis

Chairs: *J.-P. Dedet - FRANCE, P. Desjeux - FRANCE*

Keynote speaker:

- WHO and the leishmaniasis control programs in the pipeline. *J. Alvar - SWITZERLAND*

Speakers:

- A descriptive analysis of the effectiveness and safety of conventional amphotericin B for the treatment of visceral leishmaniasis in eastern Uganda. *Y. Mueller - SWITZERLAND*
- Rapid tests and diagnosis of human leishmaniases. *P. Marty - FRANCE*
- Epidemic of human cutaneous leishmaniasis caused by Leishmania donovani in Sri Lanka. *R-P-V. Jayanthe-Rajapakse - JAPAN*
- Cost-effectiveness analysis of current first-line drug regimens for visceral leishmaniasis. *V. Vanlerberghe - BELGIUM*
- Molecular epidemiology and genetic polymorphism of Leishmania (viannia) guyanensis in French Guiana. *B. Rotureau - FRANCE*
- Paromomcyin as a new cure for visceral leishmaniasis: preliminary results of a phase III randomized controlled trial of efficacy and safety. *S. Sundar - INDIA*

University Auditorium

Sélection de travaux soumis pour publication à la Société de Pathologie Exotique

Chairs: *C. Chastel - FRANCE, P. Saliou - FRANCE*

- Développement d'un test dot blot de détection d'antigène, basé sur le système de fixation Biotine-Avidine pour le diagnostic de l'onchocercose humaine. *F.E. Wembe - CAMEROON*
- Diagnostic et traitement du cancer invasif du col utérin au Cambodge (à propos de 35 cas). *D. Monchy - CAMBODIA*
- Evaluation de l'efficacité thérapeutique de la chloroquine versus amodiaquine dans le traitement du paludisme simple à Abie, Côte d'Ivoire. Etudes in vivo et in vitro. *T. Adjetey - IVORY COAST*
- L'incidence des morsures de serpents en zone rurale au Sénégal oriental. *E. Guyavarch - FRANCE*
- Comportement d'Anopheles gambiae KDR+ face à des moustiquaires bi-imprégnées d'insecticides pyréthrinoïde et organophosphoré. *F. Darriet - FRANCE*

Room 120

Child health in the tropics

Chairs: *R. Broadhead - MALAWI, P. Imbert - FRANCE*

Keynote speaker:

- Child and newborn health in developing countries. *O. Fontaine - SWITZERLAND*

Speakers:
- The effect of HIV seropositivirty on paediatric bacterial meningitis in Blantyre, Malawi. *E. Molyneux - MALAWI*
- Shigellosis associated encephalopathy or Ekiri syndrome in Iranian pediatric patients. *L. Sedighipour - IRAN*
- Evaluation of children fever attacks management in health centres in Maroua and Bafoussam, Cameroon. *J. Delmont - CAMEROON*
- Maternal and neonatal mortality. What strategies to adopt? *L. de Bernis - SWITZERLAND*
- Prospective study of dengue infection in school children in long Xuyen, Vietnam. *T-K-T. Nguyen - VIETNAM*
- Bladder stones in childhood / A descriptive study in a rural setting of southern Laos. *M. Strobel - LAOS*

Room 92

Natural drugs and traditional medicine

Chairs: *G. Bodecker - UK, M. Randrianarivelojosia - MADAGASCAR*

Keynote speaker: *B. Gilbert - BRAZIL*
- Development of Brazilian medicinal plants to combat tropical endemic diseases. *B. Gilbert - BRAZIL*

Speakers:
- Decoction of Argemone mexicana is clinically effective in uncomplicated falciparum malaria. *M. Willcox - MALI*
- Ethnographic study on herbs and rituals: a dialogue between traditional birth attendants and professional midwive in relation to childbirth and delivery. *N. Henda - SOUTH AFRICA*
- Traditional healers and reduction of severe malaria case fatality rate in Bandiagara, Mali: impact of a fruitful partnership. *A. Kone - MALI*
- The collaboration between indigenous African healers, nurses community health workers in preventing STIS, TB HIV infection and aids: an intervention study in Kwazulu-natal province South Africa 2004. *G. Petros - SOUTH AFRICA*
- Myrtle (Myrtus communis, L.): from the Mediterranean tradition a potential antiparasitic lead. *L. Verotta - ITALY*
- Pharmacological and phytochemical study of antimalarial plants among the Baka pygmies of the Dja biosphere reserve, Cameroon. *J. Fotie - CANADA*

Room 50

Ophtalmology in the tropics

Chair: *P. Queguiner - FRANCE*

Keynote speaker:
S. Resnikoff - SWITZERLAND

Speakers:
- Progress toward global elimination of blinding trachoma. *C. Stengel - RWANDA*
- Global and regional cost and effects of cataract and trachoma control. *R. Baltussen - USA*
- Modelling the influence of household clustering on control of trachoma by antibiotics. *N. Alexander - USA*
- Autograft of conjunctive and tenon in the treatment of perforative cornea. *L. Aliou - SENEGAL*
- Eliminating ocular Chlamydia trachomatis with mass antibiotic treatments. *B. Gaynor - USA*
- The needs in eye care in west Africa. *D. Sacko - BURKINA FASO*

16:00 – 16:30

COFFEE BREAK / POSTER VIEWING EXHIBITION

16:30 – 18:30

Pharo Auditorium

ASTMH SYMPOSIUM

West-Nile virus: history, epidemiology, medical impact

Chair: *T. Monath - USA*

Speakers:
- West nile virus was isolated in Uganda in 1937: Why? *D.S. Burke - USA*
- West nile virus emergence in the Americas: public health and medical impact. *L.R. Petersen - USA*
- West nile virus in Europe and Africa: minor pathogen or potential threat to public health? *P. Couissinier-Paris - FRANCE*
- Clinical manifestations of west nile virus infection in humans. *J.J. Sejvar - USA*

MPM Room

Malaria pathophysiology

Chairs: *O. Doumbo - MALI, G. Grau - FRANCE*

Keynote speaker:
- Pathophysiology of severe falciparum malaria. *C. Newton - KENYA*

Speakers:
- Sensitisation of endothelium to TNF induced by malarial cytoadherence. *S-J. Chakravorty - UK*

gramme

- MRP8/14 as a marker for severity in falciparum malaria. *Y. Matsumoto - JAPAN*
- Cell-derived microparticles in malaria patients as a marker for disease severity. *K. Chotivanich - UK*
- Endothelial apoptosis in malaria and sepsis: contribution of neutrophils, therapeutic implications. *C-J. Hemmer - GERMANY*
- Implication of microparticles in the microvascular pathology of cerebral malaria: evidence in man and mouse. *G. Grau - MALAWI*
- Isolated-perfused spleen: an ex-vivo model for the study of host-parasite interaction in human malaria. *V. Brousse - FRANCE*

IMTSSA Room

Entomology, epidemiology and vector population genetics

Chairs: *A. Della Torre - ITALY, P. Carnevale - FRANCE*

Keynote speaker:

- Insecticide resistance in malaria vector mosquitoes in a gold mining town in Ghana and Implications for malaria control. *M. Coetzee - SOUTH AFRICA*

Speakers:

- Habitat-based modeling of larval control on entomological inoculation rates, incidence and prevalence of malaria. *W. Gu - USA*
- Anibody responses to anopheles salivary antigens is a marker of risk of malaria. *S. Cornelie - FRANCE*
- Characterisation of pyrethroid resistance in the southern African malaria vector Anopheles funestus. *B-D. Brooke - SOUTH AFRICA*
- Environmental characterisation of An. sundaicus, malaria vector, in the southern Vietnam: consequences of the shrimp farming expansion of malaria risk in southeast Asia. *S. Manguin - FRANCE*
- Human DNA identification in mosquito bloodmeals by cytochrome B RFLP analysis. *M.A. Oshaghi - IRAN*
- Evaluation of the efficacy of a new insecticide paint for malaria control. *B. Mosqueira - BENIN*

University Auditorium

Epidemiology of filariasis

Chairs: *M. Boussinesq - FRANCE, K.-D. Ramaiah - INDIA*

Keynote speaker:

- The global program to eliminate lymphatic filariasis (LF): what will it take to achieve success? *E.A. Ottesen - USA*

Speakers:

- Onchocerca volvulus: genetic selection on the structural genes of amphid sensory neurones, OVDYF-8 and OVTUB, following repeated exposure to ivermectin. *R. Prichard - CANADA*
- Effects of ivermectin on genotype and association with fertility in Onchocerca volvulus. *C. Bourguinat - CANADA*
- Lymphatic filariasis elimination: analysis of the population genetics of concurrent selection with albendazole and ivermectin on the possible spread of albendazole resistance. *R. Prichard - UK*
- Human infection patterns and heterogeneous exposure in river blindness. *M.G. Basanez - UK*
- Study of the qualitative and quantitative associations between Onchocerca volvulus and loa loa at individual host level. *S. Pion - UK*

Room 120

Human fasciolasis: from genetics to epidemiology and control

Chairs: *M. D. Bargues - SPAIN, G. Hillyer - PUERTO RICO*

Speakers:

- Humen fascioliasis transmission and epidemiological patterns in endemic environments. *S. Mas-Coma - SPAIN*
- Diagnostics and vaccines in fascioliasis. *G. Hillyer - USA*
- A RDNA molecular evolutionary framework for lymnaeidae. *M.D. Bargues - SPAIN*
- The risk of gallstone disease in the advanced chronicity state of fascioliasis: an experimental study in a rat model. *M.A. Valero - SPAIN*
- Can the fascioliasis causal agents Fasciola hepatica and F. gigantica be differentiated at definitive host level? An adult stage comparison study with computer image analysis system (CIAS). *M.V. Periago - SPAIN*
- Intraspecific genetic variability in Lymnaeid snail vectors: RDNA genotyping studies with lymnaea stagnalis, type species of the family. *P. Artigas - SPAIN*

- Present status of human and animal fascioliasis in Caspian littoral, northern part of Iran (2004). *M. Rezaeian - IRAN*
- The risk of gallstone disease in the advanced chronicity state of fascioliasis: an experimental study in a rat model. *M.A. Valero - SPAIN*

Room 92

Chagas disease

Chair: *A. Prata - BRAZIL*
C. Schofield - UK

Keynote speaker:

- An overview of Chagas disease.
  W. Apt - CHILE

Speakers:

- Epidemiological surveillance of Chagas disease with communitary participation in Trujillo, Venezuela.
  A. Rodriguez-Morales - VENEZUELA
- Comparison of two infective forms of Trypanosoma cruzi and their corresponding host cell response using microarray analysis.
  S. Goldenberg - BRAZIL
- Heart rate variability, QT and QTC dispersion in the co-infection T. cruzi and HIV. *D. Correia - BRAZIL*
- Association between electrocardiographic tracings and persistence of Trypanosoma cruzi in chronic Chagasic patients treated with itraconazole or allopurinol in long follow-up. *W. Apt - CHILE*
- Epidemiology importance and metric variation among geographic populations of the Chagas vector Triatoma longipennis (hemiptera: reduviidae) in western Mexico.
  J.A. Martinez-Ibarra - MEXICO
- Epidemiological significance of T cruzy I and T. cruzi II strains circulating sympatrically in Bolivia.
  S.F. Brenière - FRANCE

gramme

THURSDAY SEPTEMBER 15

08:30 – 10:00
Pharo Auditorium
Plenary session VII
Chairs: *F. KLotz - FRANCE,*
M. Boeree - NETHERLANDS
Keynote speakers:
- How to make the response to Ebola and Marburg viral haemorrhagic fever (VHF) more human: an anthropologic approach (Congo and Angola)
  Humaniser la réponse aux épidémies de fièvre hémorragique à virus (FHV) Ebola et Marburg : approche anthropologique - Congo (février et décembre 2003) et Angola (février 2005).
  A. Epelboin - FRANCE
- African malaria: climate matters.
  Le paludisme en Afrique : le climat joue un rôle important.
  M. Thomson - USA
- The role of the French military doctors in the tropics.
  Action des militaires français sous les tropiques.
  P. Queguiner - FRANCE

MPM Room
Clinical case presentations 4
E. Pichard - FRANCE,
N. Beeching - UK

IMTSSA Room
Workshop 23
Schistosomiasis and intestinal helminth control in Africa
Chair: *A. Fenwick - UK*
Speakers:
N. Kabatereine - UGANDA,
A. Garba - NIGER,
S. Toure - BURKINA FASO

University Auditorium
Workshop 24
From pathogenesis to malaria control in pregnant women
Chair: *U. d'Alessandro - BELGIUM*
Speakers:
- ABO blood group type and malaria infection - an overview with a focus on placental malaria.
  M. Paz Loscertales - UK
- Pregnancy malaria and post - partum blood loss.
  U. Uddenfeldt-Wort - SWEDEN
- Anaemia as an indicator of malaria control in pregnancy. *E. Savage - UK*
- Birthweight as an indicator of malaria control pregnancy.
  K. Msyamboza - MALAWI
- Adolescent friendly health strategies for malaria and HIV control.
  L. Brabin - UK

Room 120
Workshop 28
Counterfeit drugs: a public health threat
Chair: *Y. Juillet - FRANCE*
Speakers:
- The pharmaceutical safety chain.
  H. J de Jong
- Title not yet received
  P. Duneton - FRANCE
- Impact of counterfeit medicines on health in Africa
  O. Doumbo - MALI
- Title not yet received
  A. Djimde - MALI

Room 92
Workshop 25
A Euro-Mediterranean information system devoted to public health, the EMPHIS experience
Chairs: *K. Dellagi - TUNISIA,*
H. Debois - FRANCE
Speakers:
- The interest of using GIS for controlling leishmaniasis.
  A. Ben Salah - TUNISIA
- Role of data teletransmission in tuberculosis control: the Maghrebean experience through EMPHIS.
  F. Boulahbal - ALGERIA
- Enhancing nosocomial infections control in the Euro-Med area.
  J. Fabry - FRANCE
- Distance learning in public health: professional and academic modules developed by universities.
  P. Farah - LEBANON
- The use of an open portal in public health: the EMPHIS experience.
  F. Cavallo - ITALY

10:00 – 10:30
COFFEE BREAK / POSTER VIEWING EXHIBITION

10:30 – 12:00
Pharo Auditorium
Best poster prize presentations
Chair: *P. Queguiner - France*
Prix remis par les anciens Présidents de la Société de Pathologie Exotique
Pr G. Charmot, Pr P. Pene,
Pr M. Gentilini, Pr A. Chippaux

gramme

10:30 – 12:30

MPM Room

Meningococcal disease

Chairs: *S. Chanteau - NIGER, H. Peltola - FINLAND*

Keynote speaker:

- One hundred years of epidemic meningitis in Africa. *B. Greenwood - UK*

Speakers:

- Meningococcal meningitis in Niger: how is the risk related to the serogroup W135 evolving? *P. Boisier - NIGER*
- Following meningococci in Africa using multilocus sequence analysis. *P. Nicolas - FRANCE*
- Development and validation of a multiplex dipstick for the rapid diagnosis of Neisseria meningitidis serogroups A and Y/W135. *S. Chanteau - FRANCE*
- How to build on fifteen years of epidemic meningitis surveillance in Burkina Faso, Mali and Niger? *M-P. Preziosi - MALI*
- Current progress on meningococcal A conjugate vaccine: clinical development challenge and vaccine introduction perspective. *M-K. Konde - SWITZERLAND*
- Contribution of PCR to surveillance of acute bacterial meningitis in Africa: report on a successful experience of technological transfer to centre Muraz laboratory, Bobo-Dioulasso, Burkina Faso. *B-M. Njanpop-Lafourcade - FRANCE*

IMTSSA Room

Echinococcosis

Chairs: *P. Craig - UK, P. Kern - GERMANY*

Keynote speaker:

- Strategies for the control of Hydatidosis/Echinococcosis in Israel. *J. El-On - ISRAEL*

Speakers:

- Human alveolar echinococcosis in Germany: disease prevalence and distribution since the first case report *P. Kern - GERMANY*
- Immunophysiological roles for hydrophobic ligand binding protein of Taenia solium metacestode. *Y.A. Bae - KOREA*
- Cystic echinococcosis in eastern Africa: distribution and public health impact of different echinococcus species. *T. Romig - KENYA*
- Molecular analysis of Echinococcus granulosus strains isolated in sheep, cattle, camels ad humans in Tunisia. *S. M'Rad - TUNISIA*
- Phenotic and genetic polymorphism of Echinococcus granulosus isolated in sheep, cattle, humans and camels in Tunisia. *S. M'Rad - TUNISIA*
- Echinococcosis on the Tibetan plateau. *P. Craig - USA*

University Auditorium

Malaria vaccine research

Chairs: *O. Puijalon - FRANCE, R. Sauerwein - NETHERLANDS*

Keynote speaker:

- The current status of malaria vaccine research and development in Europe. *D. Arnot - SCOTLAND*

Speakers:

- New surface antigens restricted to CSA-binding IES as potential targets in anti-placental malaria strategies. *M. Avril - FRANCE*
- Analysis of anti-var2csa IGG response in a cohort of Senegalese pregnant women. *N. Tuikue-Ndam - DENMARK*
- Malaria vaccine candidate using enolase antigen of Plasmodium falciparum. *S. Kano - JAPAN*
- Genetic polymorphism of the serine rich antigen N-terminal region in Plasmodium falciparum field isolates from Brazil. *E-K-P. Riccio - BRAZIL*
- Analysis of genetic polymorphism of N-terminal region of the P126 protein in Plasmodium falciparum field isolates from the Brazilian Amazon. *L. Pratt-Riccio - FRANCE*
- Restricted genetic diversity of Plasmodium falciparum vaccine candidate MSP-2 in the Para and Rondônia Amazonian states, Brazil. *C. Perez-Faria - BRAZIL*

Room 120

Arthropod-borne bacterial diseases

Chairs:

D. Raoult - FRANCE, R. Birtles - UK

Keynote speakers:

- Emerging rickettsioses. *D. Raoult - FRANCE*

Speakers:

- A study of the distribution of tick-borne borreliosis in west and central Africa. *J-F. Trape - MALI*
- Emergence of mediterranean spotted fever in Oran (Algeria). *N. Mouffok - FRANCE*
- Live-attenuated measles vaccine expressing the secreted form of the west nile virus envelope glycoprotein protects against west nile virus encephalitis. *F. Tangy - FRANCE*

MEDICINE AND HEALTH IN THE TROPICS

Marseille - France
11-15 September 2005

ABSTRACT BOOK

IMPORTANT NOTICE:
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Malaria pathophysiology

O-242

SENSITISATION OF ENDOTHELIUM TO TNFINDUCED BY MALARIAL CYTOADHERENCE

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Cerebral malaria (CM) is characterised by sequestration of parasitised red blood cells (PRBC) in the brain microvasculature and elevation of ICAM-1 and TNF. Using human umbilical vein endothelial cells, HUVEC and PRBC infected by strain ItG (laboratory parasite line), we investigated whether the sensitivity of the endothelium to the inflammatory cytokine TNF was increased by ItG-infected PRBC.
HUVEC were co-cultured with RBC or PRBC, in the absence and presence of a suboptimal dose (5 pg/ml) of TNF for 20 hours and surface ICAM-1 and IL-8 release quantified as markers of HUVEC activation.
Interestingly, addition of RBC or ItG-PRBC to HUVEC tended to increase expression of ICAM-1 and release of IL-8, with concurrent significant upregulation of the soluble TNF receptors TNFRI and TNFRII. Both RBC and ItG-PRBC, when combined with 5 pg/ml TNF, increased ICAM-1 ($p<0.05$ for ItG only) or IL-8 ($p<0.05$ for ItG or RBC), compared to TNF-a alone. Further evidence for sensitisation of endothelium to TNF was obtained from analysis of the endothelial cell transcriptome, within 6 hours of coculture, using a human Affymetrix microarray chip, demonstrating increases in inducible markers such as VCAM-1 and E-selectin. Therefore, we suggest a positive feedback between cytoadherence and endothelial cell sensitisation to the inflammatory cytokine, TNF, which might contribute to a vicious cycle in tissue containing sequestered PRBC.

O-243

MRP8/14 AS A MARKER FOR SEVERITY IN FALCIPARUM MALARIA

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Migration inhibitory factor-related protein (MRP) 8 and MRP14 belong to S100 calcium-binding protein group, and is considered to be secreted by stimulated neutrophils and monocytes. We previously reported remarkable increase of MRP8 and 14 positive macrophages in the spleen of *P. falciparum*-infected squirrel monkeys. In the present study, enzyme-linked immunosorbent assay for detection of the complex of MRP8 and MRP14 (MRP8/14) showed increases of MRP8/14 concentrations in plasma of monkeys infected with *P. falciparum* ICH/1 CDC strain. To evaluate the MRP8/14 as a marker for severity of falciparum malaria, the plasma levels of MRP8/14 of the patients in Thailand were investigated in relation with clinical manifestations. For ELISA, 1/500 dilution of plasma samples was used and the absorbance was measured at 450 nm. The average optical density (O.D.) value of plasmas from severe malaria patients was high (0.85) compared with that of mild malaria patients (0.48), although that of negative control (Japanese healthy volunteer) was 0.07. Moreover, in the group of the patients who had the parasite count less than 10,000/μl, severe malaria patients showed higher O.D. value (0.81) than that of mild malaria patients (0.35). The level of MRP8/14 in the plasma was significantly related to the clinical manifestation of *P. falciparum* malaria. Thus, the MRP8/14 level of malaria patients could be an additional marker of their severity.

O-244

CELL DERIVED MICROPARTICLES IN MALARIA PATIENTS AS A MARKER FOR DISEASE SEVERITY

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Cell derived microparticles (MPs) in the blood of malaria patients were measured by flow cytometry. The mean (95%CI) total number of MPs was over ten times higher in malaria patients (N=85) (19018/μl (12039-25996) when compared those with healthy donors (N=14) (894/μl (630-1158), P=0.001). The MPs level in severe (N=25) and cerebral malaria (N=15) patients was approximately three times higher than that of uncomplicated falciparum (N=22), *P. vivax* (n=17) and *P. malariae* (N=6)-infected patients (P=0.001). The MPs derived from red cells (25%), endothelial cells (20%), platelets (15%), and mononuclear cells (10%). The level of MPs was correlated positively with plasma or serum level of BUN, creatinine, lactate, direct billirubin and liver enzymes (P=0.001) and negatively correlated with platelet counts (P=0.01). The mean difference in MPs was significantly higher in the samples from patients with lactic acidosis (49%, N=24), renal failure (63%, N=5) and jaundice (56%, N=14) than those without specific syndrome of severe malaria. MPs are a marker of disease severity in malaria. These particles contain the surface proteins mediating coagulation and adhesion. Their generation and specific pathophysiological roles are under further investigation.

O-245

ENDOTHELIAL APOPTOSIS IN MALARIA AND SEPSIS: CONTRIBUTION OF NEUTROPHILS, THERAPEUTIC IMPLICATIONS

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Endothelial damage contributes to fatal complications of malaria and sepsis. In *P. falciparum* malaria, endothelial damage is caused by apoptosis. *In vitro*, this damage is reduced by neutralizing neutrophil-derived reactive oxygen species or elastase with with ascorbic acid or ulinastatin, respectively (Hemmer et al., Infection and Immunity 2005). Since endothelial cell apoptosis may also contribute to severe sepsis, we have compared its mechanisms in malaria and sepsis, using cultured human umbilical vein endothelial cells (HUVEC) as a model.
Endothelial cells were incubated with patient sera (*P. falciparum* malaria, *S. aureus* sepsis, *E. coli* sepsis) or with culture supernatants of the respective organisms, in the presence or absence of neutrophils. Next, endothelial cell apoptosis was detected by staining the nuclei with UDP-fluorescein (TUNEL method).
Incubation of endothelial cells with patient sera (*P. falciparum* malaria, *S. aureus* sepsis, *E. coli* sepsis) or culture supernatants increased the numbers of apoptotic endothelial cells, compared to control sera or control media. Addition of neutrophils to patient sera or to culture supernatants augmented the number of apoptotic endothelial cells further. Addition of ascorbic acid or ulinastatin, in contrast, reduced endothelial apoptosis in the presence of neutrophils.
These *in vitro* results show the contribution of neutrophil secretory activity to endothelial apoptosis in *P. falciparum* malaria, *S. aureus* sepsis, and *E. coli* sepsis. The presence of similar pathomechanisms suggets that similar therapeutic strategies may offer benefit in these syndromes.

O-287

MALARIA VACCINE CANDIDATE USING ENOLASE ANTIGEN OF PLASMODIUM FALCIPARUM

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P. falciparum parasites in human erythrocytes greatly produce such enzymes as are indispensable in the parasite glycolytic pathway. We first examined the reactivity of the antibodies of the patients in Thai-Myanmar border to the P. falciparum enolase, a glycolytic enzyme, using its recombinant protein (rPfEno) and synthesized peptides (AD22: the substrate-binding pocket of this enzyme). Those residents who were thought to have acquired certain amount of immunity against falciparum malaria showed higher ELISA titers. Rabbit anti-rPfEno IgG repressed the enolase activity that had been detected in the parasite lysate. In growth inhibition experiments in vitro, parasite maturation was greatly impeded when the IgG from rabbit antiserum against the AD22 or rPfEno was added to the culture medium.
Then we immunized Aotus monkeys and challenged infection with P. falciparum, FVO strain, after 12 monkeys were randomly assigned to 3 groups: placebo with PBS in CFA/IFA, rPfEno in CFA/IFA, and AD22 in CFA/IFA. Assays were specific anti rPfEno/AD22 antibody titers using ELISA against both the homologous and heterologous antigens, reactivity by western blots against parasite antigen, and *in vitro* inhibition of parasite growth by post-vaccination, pre-challenge sera. Evaluations were made if there is a decrease in the initial parasite growth rate, or an increase in the time to reach a predetermined level requiring treatment. We concluded that these experiments gave us promising results for the enolase to be a candidate molecule of malaria vaccine.

O-288

GENETIC POLYMORPHISM OF THE SERINE RICH ANTIGEN N-TERMINAL REGION IN PLASMODIUM FALCIPARUM FIELD ISOLATES FROM BRAZIL

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In this work we investigated the frequency of polymorphism in exon II of the gene encoding most of the amino-terminal region of the Serine Rich Antigen (SERA) in Plasmodium falciparum field samples. The blood samples were colleted from P. falciparum infected individuals in three areas of the Brazilian Amazon. Two fragments have been characterized by polymerase chain reaction: one of 175 bp corresponding to the repeat region with 5 octamer units and one other of 199 bp related to the 6 repeat octamer units of SERA protein. The 199 bp fragment was the predominant one in all the studied areas. Such a high frequency of this fragment has not been described before (em lugar nenhum) and could be explained by an immunological selection of the plasmodial population in the infected individuals under study. Since repeat motifs in the amino-terminal region of SERA contain epitopes recognized by parasite-inhibiting antibodies, data reported here suggest that the analysis of the polymorphism of P. falciparum isolates in different geographical areas is a preliminary stage before the final drawing of an universal vaccine against malaria can be targeted.

O-289

ANALYSIS OF GENETIC POLYMORPHISM OF N-TERMINAL REGION OF THE P126 PROTEIN IN PLASMODIUM FALCIPARUM FIELD ISOLATES FROM THE BRAZILIAN AMAZON

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The amino-terminal portion of the P126 Plasmodium falciparum protein, containing 6-octamer repeats, has been shown to be involved in the induction of protection against P. falciparum challenge in monkeys. However, a polymophism present in some isolates that contained 5- instead of 6-octamer repeats was observed. In this study we evaluated the genetic polymorphism of N-terminal region of the P126 protein in P. falciparum isolates and its possible role in development of specific immune response in individuals living in Brazilian endemic areas. The frequency of polymorphism was verified by SSCP-PCR in 83 isolates from Porto Velho (RO) and 92 isolates from Peixoto de Azevedo (MT). The humoral immune response was analyzed by ELISA using the synthetic peptide Nt47, corresponding to the N-terminal region of the protein. Only two different allelic fragments were detected in each area studied: I (199pb) and II (175pb). In Porto Velho, the allele I was detected in a higher frequency (92%) than allele II (8%). In Peixoto de Azevedo the alleles I and II were observed in similar frequencies, 59% and 41%, respectively. Analysis by SSCP did not reveal microheterogeneities of sequences between fragments with same size and only one SSCP pattern was observed for each fragment identified. No association was observed between allelic fragments and the humoral immune response against Nt47. The data presented here show that the limited genetic polymorphism of the P126 of P.falciparum observed in isolates from Porto Velho and Peixoto de Azevedo does not seem to influence the development of specific humoral immune response in infected individuals.

O-290

RESTRICTED GENETIC DIVERSITY OF PLASMODIUM FALCIPARUM VACCINE CANDIDATE MSP-2 IN THE PARÁ AND RONDÔNIA AMAZONIAN STATES, BRAZIL

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We investigated the extension of the genetic diversity of MSP-2 (merozoite surface protein 2) a vaccine candidate antigen in 34 and 58 P. falciparum isolates from patients living, respectively, in Pará (PA) (Paragominas) and Rondônia (RO) (Candeias do Jamari and Jacy Paraná). The amplification of the variable region of MSP-2 by nested-PCR showed a high diversity among the Pará isolates, where seven alleles could be identified. In Rondônia, only four alleles were detected and three of them were present in both localities studied. Among the fragments of same size no sequence polymorphism was revealed by SSCP, neither in Pará or Rondônia isolates, showing the identity of allelic profiles in parasitic populations from these different endemic areas. Three out of the four alleles sequenced, identified as FC27 alleles, were relatively conserved, with most of polymorphism arising from differences in the number of repetitive units. In contrast, the R1 region of the only allele belonging to 3D7 allelic family was extremely polymorphic. The MSP-2 allelic profiles here described were very similar to those previously reported by our group in P. falciparum isolates from other Brazilian endemic areas, strongly suggesting that the para-

YI-166

EVALUATION OF A HIV CARE PROGRAM IMPLEMENTED IN 13 SUB-SAHARAN AFRICA COUNTRIES

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Background. In Sub-Saharan countries, access to antiretroviral treatment remains a major challenge for people living with HIV/AIDS. In response, Abbott Laboratories' HIV Care Program, under the management of Axios International, has offered its two antiretroviral medications, Kaletra® (lopinavir/ritonavir) and Norvir® (ritonavir).
Objective. To evaluate the success of the HIV Care Program in providing antiretrovirals to the countries most in need.
Methods. For each of the 13 Sub-Saharan Africa countries participating in the HIV Care Program, we analysed the relationship between the number of persons treated annually by antiretrovirals with four national macroeconomic indicators: HIV prevalence, Proportion of HIV positive persons Requiring Treatment (PRT), Gross Domestic Product (GDP) and Annual Expenditure of Health per Capita (AEHC).
Results. There was a statistically significant positive correlation with two macroeconomic indicators: the GDP ($r = 0,66$; $p = 0.015$) and the AEHC ($r=0.70$; $p=0.008$). There was a positive but not statistically significant correlation with the HIV prevalence. There was no significant association with the PRT.
Conclusion. We observed that poorer countries access antiretrovirals at a lower rate suggesting that costs of drugs is not the only barrier to the access to antiretrovirals. We also observed that the proportion of HIV positive persons requiring treatment does not seem to be a significant predictor of access to antiretroviral treatment. This merits further study into potential interventions to overcome these barriers to accessing programs such as HIV care.

YI-167

HIGH GRADE CHLOROQUINE RESISTANT *PLASMODIUM VIVAX* IN PAPUA, INDONESIA: POTENTIAL FOR AMODIAQUINE AS SALVAGE THERAPY

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Aims. High levels of chloroquine resistance (CQR) have been described in P.vivax from the northern regions of Papua, Indonesia. This study was conducted to determine the prevalence of CQR in the Timika region in the southern part of Papua and provide preliminary data on the efficacy of amodiaquine salvage therapy.
Methods. Consecutive patients presenting to a rural clinic were enrolled into a prospective efficacy study. Patients with vivax malaria were treated with supervised chloroquine and followed for 28 days before receiving a 14 day course of unsupervised primaquine. Patients failing therapy were retreated with a three days of amodiaquine.
Results. Between April and June 2004 40 patients with *P. vivax* infections were enrolled in the study. Early treatment failures occurred in 6 patients (15%). The overall cure rate by day 28 was 28% (8/29). Plasma chloroquine concentrations were available at the time of reappearance in 33% (7/21) patients failing therapy; all had drug levels in excess of the MIC (15ng/[ml]). None of the 10 patients retreated with amodiaquine and followed for 28 days failed therapy.
Conclusions. High grade chloroquine resistant *P. vivax* is prevalent in the southern Papua, but preliminary findings suggest amodiaquine maybe efficacious. Studies to determine alternative treatment strategies are in progress.

YI-168

EXPERIMENTAL SEVERE FALCIPARUM MALARIA IN SQUIRREL MONKEY

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Plasmodium falciparum infection leads to trias (anemia, fever, splenomegaly) and is often followed by life-threatening complications. However, the pathogenesis of malaria remains poorly understood. The squirrel monkey (*Saimiri sciureus*) and the owl monkey (*Aotus trivirgatus*) are well known experimental animals sensitive for *P. falciparum* infection. In the present study, to develop a suitable experimental model for severe falciparum malaria, squirrel monkeys were inoculated with fresh blood from squirrel monkeys infected with *P. falciparum* ICH/1 CDC strain. Parasites were first detected in the peripheral blood after 1 day, and parasite density increased and reached to the maximum (25.7 to 51.3%) between day 7 and day 12 of infection. Infected monkeys showed high body temperature with 48-hour periodicity and developed coma after 7 days. Infected monkeys died between day 8 and day 12 of infection. By postmortem examination, petechial hemorrhages on the cut surface of the cerebrum and cerebellum, marked splenomegaly, and severe normocytic anemia were noticed. By histopathological analysis, ring haemorrhage in white matter of cerebral tissue, sequestration of IRBCs in blood vessels of visceral organ, and massive accumulation of mononucleus cells in the spleen were observed. By immunohistochemical analysis of the spleen, remarkable increase of MRP8/14 positive macrophages in the red pulp was observed. In conclusion, squirrel monkey is suitable experimental model with similar symptoms and histophathological changes observed in human.

YI-169

SHORT TERM TONOMETRIC RESULTS AFTER DEEP SCLERECTOMY AND EXTERNAL TRABECULECTOMY IN BLACK AFRICANS

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Goal. The external trabeculectomy became an indication of choice in open angle glaucoma with high risk. The purpose of this prospective study is to study the evolution of the Intra Ocular Presure (IOP) after a deep sclerectomy with external trabeculectomy normally carried out.
Materiel and method. This study relates patients with variable stages of open angle glaucoma operated of external trabeculectomy between July 2002 and August 2004. The operating technic consisted of a deep sclerectomy with an external trabeculectomy, without antimitotic, without scleral suturing nor interposition of material. The IOP target were systematically raised. The other criteria of inclusion are: an intervention without incident,and control at 3 months. 35 eyes of 28 patients were retained.
Results. The average age is 49 years. The initial average IOP is 34,7 mm Hg. It is 24,4 mm Hg under treatment, for an average IOP target of 19,6 mm Hg. In post operational the average IOP generally remained under IOP target level. It is 15 mm Hg at 3 months. At 6 months, 29 patients (83 % of the cases) were re-examined. The average IOP went up to 15, 8 mm Hg and the IOP target unfulfilled in 17% of the cases. Fifteen patients (42 % of the cases) had at least 12 months of follow-up with an average PIO of 16,3 mm Hg .
Conclusions. The evolution shows a progressive increase of the IOP with time. However the target IOP gives an overall satisfactory tendency. These results with the reserves which are essential, let think that the external trabeculectomy is an alternative, applicable to the black, African glaucoma , and more particularly its youthful forms and or discovered in very late stage.
Key words. Open angle glaucoma, Black Africans , Deep sclerectomy , External trabeculectomy.

（様式１０）

［若　手　研　究　者　育　成　事　業］

（新興・再興感染症研究推進事業）

研究実績報告書

1. リサーチ・レジデント氏名　　三條場　千寿

2. リサーチ・レジデント期間

平成17年4月1日　～　平成18年3月31日

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5. 研究課題

マラリアの感染予防及び治療に関する研究

6. 研究活動の概要

平成17年4月1日より上記4の研究指導者の下においてマラリアの感染予防及び治療に関する研究課題に関し、特にサルを用いた重症マラリアの病態モデルの確立の分野に関する研究を開始した。

「目的」

ヒトのマラリアには4種あるが、なかでも熱帯熱マラリアは脳性マラリア等重篤な合併症を併発することが知られており、脳症状を現した場合は適切な処置がなされなければ致死的である。わが国の年間の輸入マラリア症例数はいったん150例ほどに増加し、その中には昏睡に陥り重症化に至る例、さらには現地で死亡する例さえ散見されている。マラリ

ア感染予防および治療のために世界基準の最良な医療サービスの提供を、わが国で効果的に行うためには、わが国で優先されるべき独自のマラリアに対する治療および予防技術の開発を行なう必要があり、そのためにはまず、熱帯熱マラリア感染病態モデルが必要不可欠である。しかしながら、熱帯熱マラリア原虫は宿主特異性が強く、チンパンジーなど高等類人猿を除くとリスザル *Saimiri sciureus* 及びヨザル *Aotus trivirgatus* の 2 種の新世界ザルで実験感染が成立するにすぎず、適切なマラリア病態モデルは知られていないため、熱帯熱マラリアの病態形成機構については未だ不明な点が多く残されている。したがって我々は、リスザルを用いたマラリアの病態モデルの確立およびリスザルモデルを用いた脾腫をはじめとする様々な病態の解析を目的として研究を行っている。これまでに、リスザルにドナーザルから得られた新鮮感染赤血球を大量に接種することにより、昏睡を来し致死的な重症マラリアを発症する重症マラリア病態モデルを作出することができた。重症化モデルにおいてヒトマラリアにおけると同様の病理組織学的変化(sequestration, ring haemorrhage、高熱、貧血)も再現することができた。本年度は、これらのリスザルモデルを用いて特にマラリア脾腫に関する病態の病理組織学的解析を行い、赤脾髄の MRP8/14 陽性マクロファージの増加を明らかにした。さらにこれらの知見をもとに、タイ人マラリア患者の血漿中の MRP8/14 濃度を測定しマラリア病態との関連を解析した。

「材料および方法」

原虫は熱帯熱マラリア原虫 *Plasmodium falciparum* Indochaina-I/CDC 株、動物はボリビア由来リスザルを用いた。感染赤血球のドナーとして摘脾したリスザルに原虫を感染させ、新鮮な感染血液を採取した。遠心分離にて血漿を除去、さらに白血球除去フィルターを通して白血球を除去し、得られた感染赤血球 5×10^9個をリスザル 4 頭に静脈内接種した。マラリア原虫接種後、24 時間おきに末梢血感染赤血球数率（Parasitemia）をギムザ染色血液塗沫標本により測定した。これら感染リスザルの脾臓を採取し、病理学的解析、超微形態学的解析および凍結切片を用いた抗ヒト MRP8/14 抗体による免疫組織化学染色による解析を行った。タイのマラリア患者は、抹消血塗沫ギムザ染色標本により原虫種（*P. falciparum*、 *P. vivax*）を判別し、熱帯熱マラリア患者は、WHO の基準に準じ、severe malaria patients、moderate malaria patients、そして mild malaria patients のグループに分け、患者血漿中の MRP8/14 濃度はヒト MRP8/14 ELISA kit (Buhlmann Laboratories AG、Switzerland)を用いて測定した。コントロールとして、*P. vivax* による三日熱マラリア患者 および日本人健常者 の血漿を用いた。