

MEDLARS BIBLIOGRAPHY

PUBLICATIONS OF RELEVANCE TO PAPUA NEW GUINEA AND MELANESIA

Bibliographic Citation List generated from MEDLARS

- 1 **Al-Yaman F, Awburn MM, Clark IA.**
Serum creatinine levels and reactive nitrogen intermediates in children with cerebral malaria in Papua New Guinea.
Trans R Soc Trop Med Hyg 1997 May-Jun;91(3):303-305.
Serum from 41 of 92 children admitted to Madang Hospital, Papua New Guinea, with cerebral malaria, previously assessed for serum levels of reactive nitrogen intermediates (RNI: nitrate plus nitrite), were re-assessed for creatinine levels on the day of admission. Further analysis of RNI levels on day 21 compared to day 0 was carried out. Children with the highest RNI levels on admission, and with the longest duration of coma, did not have elevated creatinine levels. The highest levels of creatinine occurred among those with the lightest coma and creatinine levels were similar in those with short (< 48 h) and long (> 48 h) duration of coma. Between days 0 and 21, RNI decreased in 30 of 57 children, increased in 23, and did not change in 4. There was a significant relationship between the decrease in RNI relative to the level of RNI on admission and the duration of coma. For children with a coma duration < 48 h (48/57), there was no difference between the numbers showing an increase or a decrease in RNI level, but 6 of the 9 children with coma duration > 48 h showed a decrease in RNI greater than 50% of the RNI levels on admission. None of these 9 children had elevated creatinine levels. Elevated RNI levels in severe cases were thus not associated with renal function in these children in Papua New Guinea.
- 2 **Al-Yaman F, Genton B, Taraika J, Anders R, Alpers MP.**
Cellular immunity to merozoite surface protein 2 (FC27 and 3D7) in Papua New Guinean children. Temporal variation and relation to clinical and parasitological status.
Parasite Immunol 1997 May;19(5):207-214.
A prospective study in 207 children aged 0.5-15 years was carried out in a highly endemic area of Papua New Guinea to examine the relationship between cellular responses to *Plasmodium falciparum* merozoite surface protein 2 (MSP2) and malaria infection and morbidity. In vitro proliferation, IFN-gamma and IL-4 induction were measured against two recombinant proteins of MSP2, FC27 and 3D7, as well as against a form of the 3D7 MSP2 lacking the central repetitive sequences (d3D7). The prevalence of proliferative response was generally low, 6% for FC27, 9% for 3D7 and 11% for d3D7. A higher prevalence of IL-4 response was obtained, being 27% for FC27, 34% for 3D7 and 30% for d3D7, while the prevalence of IFN-gamma response was 13%, 15% and 18%, respectively. There was no correlation between age and proliferative responses; in contrast, cytokine production increased with age for all three antigens. When proliferation or stimulation of either cytokine was used to assess T-cell activation the frequency of responders increased to 39%, 47% and 46% for FC27, 3D7 and d3D7 respectively. Analysis of the relation of T-cell responses to concurrent infection and morbidity showed that lymphoproliferative response only to d3D7 was significantly associated with parasitaemia; while lymphoproliferative responses to all 3 MSP2 antigens were highest in the group of clinical malaria cases. There was no significant correlation between proliferation or cytokine production to MSP2 and concurrent or subsequent malaria morbidity.
- 3 **Amini J, Han AM, Beracochea E, Bukenya G, Vince JD.**
Anthropometrical antecedents of non-insulin-dependent diabetes mellitus: an age and sex matched comparison study of anthropometric indices in schoolchildren from a high prevalence Port Moresby community.
Diabetes Res Clin Pract 1997 Mar;35(2-3):75-80.
Anthropometrical indices of 66 schoolchildren aged between 7 and 9 years from a community with a very high prevalence of non-insulin-dependent diabetes mellitus (NIDDM) were compared with those of age and sex matched schoolchildren from two low prevalence communities. Two-way analysis of variance indicated that case children of both sexes were significantly lighter ($p < 0.001$), shorter ($p < 0.001$) and had lower body mass indices (BMI) ($p < 0.001$) than their comparisons but had greater triceps skinfold thickness (TSFT) ($p = 0.01$). These differences may be a reflection of subtle changes in metabolism in children destined, without intervention, to develop NIDDM. Anthropometrical indices may therefore have a role to play in the prediction of future disease. Although not the prime objective of the study, an analysis of available birth weights indicated a lower mean birth weight for the cases than the controls (difference of means, 0.35 kg; 95% confidence interval (CI95%), 0.13-0.57). This finding is consistent with the theory that impaired intrauterine growth may predispose to NIDDM.
- 4 **Arathoon D.**
Medical practice is more complicated in remote locations. Letter.
BMJ 1997 Aug 2;315(7103):315.
- 5 **Baker DA, Drakeley CJ, Ong CS, Lulat AG, Greenwood BM, Targett GA.**

Humoral immune responses in Gambians to Pfs 16, an immunodominant *Plasmodium falciparum* integral membrane protein.

Parasite Immunol 1996 Oct;18(10):527-533.

Naturally acquired humoral immune responses to Pfs 16, an integral membrane protein expressed in *Plasmodium falciparum* gametocytes and sporozoites, were investigated in The Gambia. A high prevalence of antibodies to this molecule was detected by peptide ELISA. 93% of the people taking part in a survey at the end of the rainy season (November) had serum antibodies to one or more synthetic peptides spanning the sequence: 88% reacted with one particular peptide sequence (IMLILSGIVGFKVK) whereas only one out of ten non-Gambians (taking anti-malarial prophylaxis with no history of infection) reacted with the peptide. Epitope mapping with mouse MoAbs has shown that this peptide is located on a part of the molecule differing from immunodominant regions of the molecule identified in a previous study in Papua New Guinea.

6 **Felger I, Marshall VM, Reeder JC, Hunt JA, Mgone CS, Beck HP.**

Sequence diversity and molecular evolution of the merozoite surface antigen 2 of *Plasmodium falciparum*.

J Mol Evol 1997 Aug; 45(2):154-160.

Eleven new alleles of the *Plasmodium falciparum* merozoite surface antigen 2 (MSA2) from Papua New Guinea were analyzed by direct sequencing of polymerase chain reaction (PCR) products. We have used the sequence information to trace the molecular evolution of MSA2. The repeats of ten alleles belonging to the 3D7 allelic family differed considerably in size, nucleotide sequence, and repeat copy number. In the repeat region of these new alleles, codon usage was extremely biased with an exclusive use of NNT codons. Another new allele sequenced belonged to the FC27 family and confirmed the family-specific conserved structure of 96 and 36 bp repeats. In order to assess sequence microheterogeneity within samples defined as the same genotype by restriction fragment length polymorphism (RFLP), we have analyzed single-strand conformation polymorphism (SSCP) of different samples of the most frequent allele (D10 of the FC27 family) in the study population. No sequence heterogeneity could be detected within the repeat region. Based on analysis of the repeat regions in both allelic families, we discuss the hypothesis of a different evolutionary strategy being represented by each of the allelic families.

7 **Flachsenberger W, Mirtschin P.**

Anticholinesterases as antidotes to envenomation of rats by the death adder (*Acanthophis antarcticus*).

Toxicon 1994 Jan;32(1):35-39.

The purpose of this study was to find an antidote against death adder envenomation that can be used in cases of emergency, when antivenoms are not readily available (Papua New Guinea and the Australian outback). Such an antidote should

allow bite victims to survive until established treatment is possible. Death adder venom is thought to act postsynaptically at the neuromuscular junction to reduce responses to acetylcholine. This causes severe flaccid paralysis and finally death, which is usually a consequence of respiratory failure. Albino Wistar rats were injected with a lethal dose of crude death adder venom. At the onset of severe envenomation symptoms, anticholinesterases (neostigmine and edrophonium) in conjunction with atropine sulfate were administered. At the minimum lethal dose (0.15 mg/kg) all animals survived as a result of the anticholinesterase treatment. The expected survival time of animals subjected to higher venom doses was significantly extended. These results indicate that death adder bite victims may gain valuable time if anticholinesterases can be administered during the initial critical stage of envenomation.

8 **Genton B, Al-Yaman F, Alpers MP, Mokela D.**

Indicators of fatal outcome in paediatric cerebral malaria: a study of 134 comatose Papua New Guinean children.

Int J Epidemiol 1997 Jun;26(3):670-676.

BACKGROUND: No comprehensive data on the clinical features and the prognosis of cerebral malaria in the South Pacific are available at present. We conducted a prospective study in children with cerebral malaria to assess the case fatality rate (CFR) in the region and to identify potential risk factors for death. METHODS: We recruited 134 children admitted to the Madang General Hospital between April 1991 and October 1993 with a strictly defined diagnosis of cerebral malaria. Besides clinical examination, we collected a blood sample for parasitological, haematological and biochemical assessment. RESULTS: The CFR was 11.9% and the prevalence of residual neurological sequelae at discharge was 1.5%. The proportion of children presenting with deep coma (12%) or hypoglycaemia (17%) was lower in our study than in African ones, where severe complications are more frequent. Also mortality associated with hypoglycaemia on admission was lower. Clinical or laboratory conditions significantly associated with death were deep coma, malarial anaemia and hyperleucocytosis. CONCLUSIONS: All conditions associated with deep coma, such as shock, hypoglycaemia and acidosis, should be corrected. Also prompt administration of blood transfusions to patients with anaemia is likely to reduce the occurrence of death in Papua New Guinean children with cerebral malaria.

9 **Gupta AC, Murthy DP.**

Intracranial juvenile nasopharyngeal angiofibroma.

Aust NZ J Surg 1997 Jul;67(7):477-482.

Eight cases of intracranial extensions of juvenile nasopharyngeal angiofibromas (JNA) are presented. These form 33% of the cases of JNA treated during a 5-year period (1988-93). A high incidence of visual complications in this stage of tumour is observed and the basis of this is discussed. Death results from serious

- complications of severe haemorrhage and cerebrospinal fluid leak. The intradural intracranial extensions of the tumour warrant careful approach in terms of surgery, because of their greater risk for complications during the dissection.
- 10 **Herdt G.**
Male birth-giving in the cultural imagination of the Sambia.
Psychoanal Rev 1997 Apr;84(2):217-226.
- 11 **Lalloo DG, Trevett AJ, Warrell DA.**
Severe envenomation by the taipan (*Oxyuranus scutellatus*). Letter.
Med J Aust 1997 Jul 7;167(1):54-55.
- 12 **Maitland K, Williams TN, Kotecka BM, Edstein MD, Rieckmann KH.**
Plasma chloroquine concentrations in young and older malaria patients treated with chloroquine.
Acta Trop 1997 Sep 10;66(3):155-161.
Plasma chloroquine (CQ) concentrations were measured by bioassay in young (0-4 years, n = 9) and older (5-60 years, n = 21) patients from Vanuatu infected with malaria following treatment with 25 mg/kg CQ over 3 days. CQ concentrations in young children tended to be lower than in older patients at days 2, 3, 4 and 7 after onset of treatment, with no drug present in two young children on day 3 and in one child on day 7. The greater difficulty experienced by young children to ingest all of their prescribed medication could have contributed to the lower CQ concentrations observed in the younger age group. The possibility that sub-therapeutic CQ concentrations are responsible for treatment failures in young children should be considered in areas where a high degree of CQ resistance has not yet been established. In such areas, the presence or prevalence of CQ-resistant infections should not be based on treatment failures observed in young children unless it can be confirmed that adequate blood CQ concentrations were achieved after treatment.
- 13 **Monchy D, Descamps I, Barguil Y, Levenes H, Genelle B.**
[29 cases of malaria introduced into New Caledonia from 1992 to 1995].
Med Trop Mars 1997;57(1):62-64. [Fr]
Although located in a tropical zone of the South Pacific, the island of New Caledonia is malaria-free. This retrospective study of imported malaria was conducted jointly by the Pasteur Institute of New Caledonia and the Gaston Bourret Territorial Hospital between January 1, 1992 and December 31, 1995. A total of 29 patients were hospitalized for malaria. Most contracted the disease in Vanuatu. *Plasmodium vivax* was involved more often than *Plasmodium falciparum* (22 vs 11). No case was severe, complicated or fatal. In most cases treatment consisted of quinine followed by mefloquine. The median duration of hospitalization was 5.7 days. Since the annual incidence of imported malaria is significantly higher in New Caledonia than in France, the authors propose that a Travellers Information Centre should be set up in New Caledonia to improve prophylaxis against malaria.
- 14 **Pal S.**
Mental disorders in abnormal offenders in Papua New Guinea.
Med Law 1997;16(1):87-95.
The case notes of all 64 referred abnormal offenders (mental patients with criminal records) sent to a psychiatric hospital between January 1971 and May 1996 were examined. It was found that severe mental disorder like schizophrenia (27 out of 64) was the most common cause of violent crimes such as homicide. Epilepsy 10.9 (n = 7) was another important neuropsychiatric condition related to violence. Alcohol and cannabis abuse was an associated factor in 21 (32.8%) referred cases. Culture-bound syndromes like 'Amok Syndrome' and 'Spirit Possession Syndrome' were also found as a cause of violent behavior.
- 15 **Phillips GD.**
An early anaesthetic in Papua New Guinea.
Anaesth Intensive Care 1997 Jun;25(3):286-288.
A search for information about early anaesthetics administered in Papua New Guinea has revealed that an ether or chloroform anaesthetic was given, probably for a retained placenta, at Port Hunter on December 9, 1880. The anaesthetist or anaesthetic assistant was the Reverend George Brown, a Wesleyan Methodist missionary.
- 16 **Price GE, Fenton RJ, Smith H, Sweet C.**
Are known pyrogenic cytokines responsible for fever in influenza?
J Med Virol 1997 Jul;52(3):336-340.
The levels of interleukin (IL)-1beta, IL-6, tumour necrosis factor (TNF)-alpha and macrophage inflammatory protein (MIP)-1 alpha released from human peripheral blood leucocytes (PBL) following interaction with influenza virus clone 7a (virulent, produces high fever in ferrets) and A/Fiji (attenuated, produces relatively low fever in ferrets) were low and similar for the two viruses. Neither strain induced interferon (IFN)-gamma and release of IL-8 (which occurs on incubation of PBLs alone) was reduced after interaction with the two viruses. The levels of IL-1 and IL-6 detected in the plasma of infected ferrets were low and did not correlate with the onset, duration or magnitude of the fevers produced by clone 7a and A/Fiji. Relatively large amounts (100,000 pg/kg) of IL-1 and TNF-alpha were needed to produce appreciable fever in rabbits, and such quantities of IL-6 were not pyrogenic. Hence, as for previous observations, no evidence could be obtained that induction of known pyrogenic cytokines is responsible for the febrile response in influenza. The possibility that some other mediator(s) may be involved cannot be ruled out.
- 17 **Rhodes R.**
Gourmet cannibalism in New Guinea tribe. Letter.
Nature 1997 Sep 4;389(6646):11.
- 18 **Tracer DP.**
Reproductive and socio-economic correlates of maternal haemoglobin levels in a rural area of Papua New Guinea.
Trop Med Int Health 1997 Jun;2(6):513-518.

The effects of pregnancy, lactation and socio-economic status on maternal haemoglobin levels among the Au, a foraging and small-scale horticultural population of Papua New Guinea, are examined. The sample consists of 259 parous women, 41 of whom reside in wage-earning households and 218 of whom reside in households practising traditional subsistence activities. The haemoglobin level among the total sample averages an extraordinarily low 8.6 g/dl and the prevalence of anaemia as defined using current WHO standards is just over 98%. Wage-earning Au, however, have significantly higher haemoglobin levels and lower rates of anaemia than their traditional counterparts. Haemoglobin levels decline significantly during pregnancy by just over 1 g/dl among both socioeconomic groups, but soon return to pre-gravid levels postpartum. No

significant effects of lactation on haemoglobin levels are found, nor does the population show any long-term, parity-specific trends in haemoglobin levels.

19 **Vele DD, Dubey SP.**

An unusual foreign body: a whole fish in the throat.

Auris Nasus Larynx 1997 Apr;24(2):207-209.

A wide variety of foreign bodies lodging in the upper aerodigestive tract are encountered in otolaryngological practice. These are mostly associated with acute symptoms calling for prompt removal. We report a case where a whole fish was accidentally lodged in the throat of a 17-year-old boy. The patient presented with severe respiratory and swallowing difficulty. The fish was removed as an emergency procedure.