

Results: Malaria had a major impact on the development of Hong Kong. High disease mortality in the early years of the colony influenced where and how people lived, as well as driving local medical expertise. Initially, the cause was attributed to Hong Kong's insalubrious environment and miasmatic presumptions dominated Western and Chinese medical thinking. In the absence of scientific delineation, fever-inducing diseases including malaria were typically grouped together, which led to a local catchall moniker 'Hong Kong Fever'.

Discoveries of the etiology and transmission of malaria proved key to the development of effective control methods and as Hong Kong grew, targeted public health measures became increasingly important. The colonial government's determination to build a viable long-term colony in a widely malarious region necessitated local problem solving. The establishment of a dedicated 'Malaria Bureau' in 1930 provided the targeted approach necessary to provide a holistic solution to the problem.

A number of challenges threatened progress against the disease, including waves of migrants from neighbouring malarious countries (in particular mainland China) and the disruption of the Second World War. Eradication of indigenous cases was eventually realized in 1969, nearly 130 years after Hong Kong was colonised. Periodic outbreaks continued to occur as late as the 1980's fuelled by residential development of the New Territories, the influx of Vietnamese refugees and imported immigrant and tourist cases, threatening a reintroduction of malaria in local mosquito populations.

Conclusion: The eradication of malaria in Hong Kong was a gradual process dependent on scientific knowledge, medical expertise, colonial government policy, public education and vigilance. As an emerging disease 'hotspot', these factors are particularly relevant in twenty-first century Hong Kong and remain inherent features of local infectious disease preparedness planning.

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Correlation between albendazolesulphoxide in plasma and hydatid cyst and clinical outcome in patients with liver echinococcosis



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Background: To investigate the relationship between plasma and cyst concentrations of albendazolesulphoxide (ASO) and their effects on parasitological findings and disease recurrence in patients with liver hydatidosis.

Methods & Materials: The study was conducted at the University Hospital for Infectious Diseases "Dr. Fran Mihaljević," Zagreb, Croatia, between August 2006 and January 2011. Consecutive patients (N=48, age 6-77 years) were treated with albendazole (3 × 5 mg/kg/d) over 28 days before surgical cyst removal (n=34) or

surgery/PAIR.

Results: Disease recurred in 3 surgically treated patients. Variability of ASO concentrations was substantial. Plasma concentrations on day 10 were higher than on day 28 (geometric means ratio [GMR] 2.00; 95%CI 1.38-2.91, P < 0.001) and higher than cyst concentrations at the time of treatment (GMR=1.58, 1.01-2.34, P=0.045). Higher cyst (but not plasma) concentrations were independently associated with lower odds of protoscolex motility (OR=0.23, 0.01-0.70, P < 0.001) and higher odds of protoscolex destruction (OR=1.17, 1.04-1.46, P < 0.001). With adjustment for age and protoscolex motility, higher day 10 plasma concentrations (but not cyst concentrations) were associated with lower odds of disease recurrence (OR=0.49, 0.09-0.97, P=0.035). Plasma concentrations did not predict cyst concentrations.

Conclusion: Viability of protoscolices progressively decreased with increasing ASO concentrations in the cyst. Data strongly suggested that higher plasma concentrations reduced the risk of disease recurrence

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Comparative analysis and identification of immunoreactive and dominant proteins of *Cysticercus cellulosae* antigens by 2D-Electrophoresis and MALDI-TOF



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Background: Neurocysticercosis (NCC) a disease, caused mainly by inadvertent lodging of the oncospheres of *Cysticercus cellulosae* in the central nervous system (CNS). The pleomorphic nature of clinical manifestations in NCC is based on the presentation of the cyst infestation, which differs with individuals. This hinders the early diagnosis of NCC and demands a specific diagnostic target. 2D electrophoresis combined with MALDI-TOF serves as a tool, aiding our purpose.

Methods & Materials: The different native antigen preparations like, whole cyst, cyst fluid, cyst wall with scolex and excretory secretory antigen from oncospheres of *Cysticercus cellulosae* was carried out using the conventional method of sonication. The proteins were purified (Ready-Prep 2D cleanup kit - BioRad) and standard concentration of protein sample was subjected to 1D isoelectric focusing in 7cm/17cm strips of 3-10 and 4-7 pH ranges, in a linear gradient with an overnight rehydration (Protean IEF Cell, Biorad). And the second dimension was run in conventional 10% SDS-PAGE gels. The gels were processed in two ways, semi-dry blotting and staining to visualize spots. Blotted membranes were treated with positive and negative controls for human NCC and the immunoreactive spots were identified. The dominant and immunoreactive spots were characterized by MALDI - TOF.

Results: SDS-PAGE silver staining showed similar banding profile with varying intensities among the different antigens

but second dimensional electrophoresis displayed different spots. Immunoreactive spots after EITB and dominant spots 27–44 kDa, in the 4–5 pH range were trypsin in-gel digested, and molecular weight determination for the spots were carried out. Subsequently followed by peptide mass fingerprinting and MALDI-MS analysis.

Conclusion: This identification and preliminary characterization of the native proteins is useful in selecting a novel and specific protein target, which can be a helpful in accurate diagnosis of NCC and can also serve as a vaccine candidate.

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The possible roles of IPT and ITNS in gestational, placental and cord blood malaria parasitemia, pregnancy outcome and fetal weight in Isu, Imo State Nigeria



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Background: Pregnant women in varying stages of pregnancy consented to participate in this study aimed at assessing the possible roles of the use of intermittent preventive treatment (IPT), insecticide treated bed nets (ITNs) in addition to the routine prophylactic malaria drug (Paludrine) on gestational, placental, cord blood malaria parasitemia, pregnancy outcome and weight of the new born.

Methods & Materials: Ethical considerations and approvals were duly obtained. Pregnant women were placed in 3 groups: Group A had women who were given IPT in addition to the routine Paludrine, Group B had women given ITN in addition to Paludrine while Group C had women who were given both IPT and ITNs in addition to the routine Paludrine. Peripheral malaria parasitemia was determined from Giemsa stained thick and thin blood smears on the first day of this study and on the day of delivery. Placental and cord blood parasitemia were determined from blood taken from the maternal side of the placenta as well as from the cord of the new born babies. Pregnancy outcome was noted for each participant and all the babies born were weighed on delivery.

Results: An initial overall 47.4% peripheral malaria parasitemia was observed. Group A women: 25% had peripheral, 54% Placental and 53% cord blood malaria parasitemia respectively with pregnancy outcome as follows; 13% abortions, 8% still births and 79% live births. The baby birth weights were 12.6% low births, and 12.6% above 4kg. Group B women: 21% had peripheral, 34% placental and 38% cord blood parasitemia respectively with pregnancy outcome as follows: 8% abortion, 5% still births and 87% live births. The baby weights were: 7.6% low birth weights, and 26.1% above 4kg. Group C: 2.3% of the women had peripheral parasitemia, 44.2% had placental and cord blood malaria parasitemia respectively with pregnancy outcome as follows: 3.1% still birth and 96.9% live births. Low birth babies were not observed and 36.4% weighed above 4kg.

Conclusion: Findings from this study emphasize the need to enforce the use of ITNs and IPT in pregnancy in Nigeria especially ITN usage which is below average.

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The possible role of nutritional status on the pro and anti-inflammatory cytokine balance of children with malaria from Imo State, Nigeria



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Background: Understanding the impact of malnutrition on pro and anti-inflammatory cytokine response in Plasmodium falciparum (p.f) infected children is very important for malaria control. This study specifically examined the balance between Interleukin 10, Tumour Necrosis Factor (TNF) and nutritional status of Plasmodium falciparum malaria infected children in South Eastern Nigeria to determine and evaluate the influence of malnutrition on immune response among p.f Infected children in Imo State Nigeria.

Methods & Materials: Ethical considerations were duly observed. Children aged 1–72 months with ongoing fever or history of fever within the last 24 hours and with no sign suggestive of severe malaria were involved in this study. Blood films stained with giemsa and rapid diagnostic test (RDT) kit were used to diagnose malaria parasitemia. Their Nutritional status was determined using the international Reference Population defined by the U.S National Center for Health Statistics (NCHS). IL-10 and TNF were assayed by ELISA. Statistical analysis was done using SPSS version 17.

Results: A total of 1344 febrile children were involved in this study. From this group 26.3% and 31.5% were positive for malaria parasites microscopically and through the RDT kit respectively. The cytokines were associated significantly with malaria infection. IL-10/TNF ratio was significantly associated with parasite density and age ($p < 0.05$). IL-10/TNF ratio was lower in children 1–24 months when compared with older children. There was however no significant association between the nutritional status of these children and malaria infection. Non significant proportions were stunted (22.9%), Under weight (9.4%) and wasted (5.2%). Stunting, underweight and wasting cut across the study population. These findings show no significant relationship between presence of malaria and stunting, Underweight and wasting, rather stunting and wasting were associated with age ($p < 0.05$). There was no relationship observed between the IL-10 and TNF cytokines levels and the nutritional status of the study population.

Conclusion: Findings from this study suggest that there is no association between malnutrition and malaria as well as between the nutritional status of the study population and their cytokine level

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