Instructions for Submission of Abstract

1. The abstract will appear as submitted in the volume of abstract. Because it will be reduced by 30 percent, a font of **10 point** or larger is recommended.
2. Use **English** only.
3. The abstract must fit in the designated space (within the border).
4. Organize the abstract as follows: Title, author's name and affiliation, aim of study, method used, results, conclusion.
5. Type the title in CAPITAL LETTERS.
6. The author's name should be typed with the last name first followed by the initial of the first name. Underline the presenting author's name. Put asterisks(*) after the author's name to refer to respective affiliations.
7. Simple tables and figures may be included.
8. Use standard abbreviations and place unusual ones in parentheses after the first appearance of the full word.
9. Leave one line blank as in the sample abstract below.
10. Type in single space throughout, indenting 3 spaces only at the beginning of each paragraph within the text of the abstract.
11. Avoid smudges and eraser marks.
12. Submit **the original abstract and 2 photocopies together with the acknowledgment card** using the envelope provided.
13. Send the abstract unfolded and protected by cardboard by air mail.
14. The presenting author must register to attend the Congress at the time of submission of the abstract.
15. Abstracts received after **February 1, 1998** will not be accepted.

SAMPLE ABSTRACT

THE EFFECT OF SODIUM BICARBONATE ON A SINGLE DOSE OF DIETHYLCARBAMAZINE THERAPY IN PATIENTS WITH BANCROFTIAN FILARIOSIS IN KENYA

Njenga S*, Mitsui Y**, Muita M*, Fujimaki Y**, Mbugua J*, Kirigi G*, Gachihi G*,Wasunna M*, Aoki Y**
*Clinical Research Center, Kenya Medical Research Institute, Nairobi, Kenya and **Institute of Tropical Medicine, Nagasaki University, Nagasaki, Japan

An attempt was made to examine the effect of a combination of diethylcarbamazine citrate (DEC-C) and sodium bicarbonate (NaHCO3) on the pharmacokinetics of diethylcarbamazine (DEC), side-reactions and reduction of the microfilarial density of patients with *Wuchereria bancrofti* infection at a hospital in Nairobi, Kenya. The microfilariae carriers received DEC-C at 6 mg .....

(N.B.: Please underline the presenting author.)

ABSTRACT FORM

Presentation Preference: workshop ☐, oral ☒, poster ☐
Abstract Category (refer to page 5 and 6): workshop ☐, oral/poster (F . 1)
Keywords(3 terms): Leishmaniosis Nramp1 Nitric oxide
I hereby apply for the Travel Award for Young Scientists.☐

THE IMMUNOPATHOGENESIS OF *LEISHMANIA DONOVANI* INFECTION IN *Nramp1* CONGENIC MICE

Evans C, Norrish A, Soo S, Blackwell J
Department of Medicine (Box 157), University of Cambridge Clinical School, Addenbrooke's Hospital, Hills Rd, Cambridge, CB2 2QQ, UK

The Natural resistance associated macrophage protein gene (*Nramp1, Ity/Lsh/Bcg*) regulates macrophage activation for antimicrobial activity. To investigate the mechanisms by which *Nramp1* influences susceptibility to intracellular infection, *Nramp1* B10.L-Lsh^r (N20) resistant and B10 susceptible congenic mice were infected with *Leishmania donovani* amastigotes in duplicate experiments.

Fifteen days post infection the hepatic parasite count was more than one log unit greater in susceptible than resistant mice. Light microscopy revealed morphological changes in the Kupffer cell population within 24 hours of infection in resistant but not susceptible mice. Fifteen and 30 days post-infection, hepatic granulomas were significantly more numerous in susceptible animals. RNA was extracting from livers harvested during early infection and semi-quantitative RT-PCR was used to study changes in mRNA expression of murine inducible nitric oxide synthase (iNOS), interleukin-12 p40 subunit (IL-12), the neutrophil attractant chemokine KC, *Nramp1* and the housekeeping gene GAPDH. This revealed a biphasic up-regulation of iNOS, IL-12, KC and *Nramp1* mRNA expression relative to GAPDH in resistant and susceptible animals following infection. Early iNOS and KC expression were significantly greater in resistant than susceptible mice, consistent with previous *in vitro* studies of the innate immune response in transfected cell lines. By day 15, the adaptive immune response was associated with significant induction of iNOS and KC mRNA levels in both resistant and susceptible mice.

These results suggest that nitric oxide mediated parasite killing contributes to the innate immune response in *Nramp1* resistant animals but is deficient in *Nramp1* susceptible mice.

IXth International Congress of Parasitology

Abstract Submission Form

Please type all information and return to the Congress Secretariat not later than January 31, 1998.

Title: ☐ Prof. ☒ Dr. ☐ Mr. ☐ Mrs. ☐ Ms.

Name (author presenting the paper): Carlton EVANS

Affiliation: Research Registrar

Mailing Address: University of Cambridge Clinical School, Department of Medicine (Box 157), Addenbrooke's Hospital,

City Cambridge CB2 2QQ Zip Code

Country UK

Tel -44 1223 336143 Fax -44 1954 211369 E-mail (below)

cawec2@medschl.cam.ac.uk

Title of Abstract:

THE IMMUNOPATHOGENESIS OF **LEISHMANIA DONOVANI** INFECTION IN **Nramp1** CONGENIC MICE

Presentation Preference: workshop ☐, oral ☒, poster ☐

Abstract Category (refer to page 5 and 6): workshop 5, oral/poster (F-1)

Keywords (3 indexing terms): (Leishmaniosis)
(Nramp1)
(Nitric oxide)

☒ I hereby enclose the registration form and fee.

☐ I hereby apply for the Travel Award for Young Scientists.

Submitted by

Date: February 26th, 1998 Signature:

For Official use Only

Abstract No. Session

Date Received Poster No.

Registration No. Conference Room

Date of Presentation Time of Presentation

Status of Authors: ☐ Invited Speaker ☐ Chairperson ☐ Co-chairperson

Confirmation of Abstract: ☐ workshop ☐ oral ☐ poster

46. Immunology-7 (Trypanosomosis/Leishmaniosis)

O-0515

USE OF TUBULIN FOR IMMUNIZATION AGAINST TRYPANOSOMIOSIS.

Lubega G.W.*, Byarugaba D.K*, Ochola D.O.K.*, and Prichard R.K.**

* Faculty of Veterinary Medicine, Makerere University, Kampala Uganda.
** Institute of Parasitology, McGill University, Montreal, Canada.

The immunotherapeutic potential of tubulin against trypanosomiosis was investigated. A native tubulin enriched protein (NTP), was purified from *Trypanosoma brucei brucei* and used for immunizing mice or rabbits. Synthetic peptides (STP) based on the C-terminal of the ß-tubulin cDNA of *T.b. rhodesiense* were also used. The NTP induced protection in mice challenged with *T.b.brucei*. No protection was observed with the STP. The ability of the rabbit anti-NTP or anti-STP sera to inhibit proliferation of trypanosomes was investigated using *T.b.brucei* in culture. The anti-NTP strongly inhibited the proliferation of the trypanosomes. The anti-STP also inhibited proliferation but was much less potent than the anti-NTP. It could not be established why the STP could not confer some protection in mice. Nevertheless these data suggest that trypanosome tubulin may serve as a specific immunotherapeutic target against trypanosomiosis.

O-0516

NITRIC OXIDE PRODUCTION IN VERVET MONKEYS INFECTED WITH *TRYPANOSOMA RHODESIENSE*: A RETROSPECTIVE STUDY

Maina N.W.N., J.Sternberg, P.Njoka, C.W. Gichuki, J.M.Ndung'u.*

Kenya Trypanosomiasis Research Institute (KETRI), P.O.Box 362, Kikuyu, Kenya.
*University of Aberdeen, Zoology Department, Tillydrone Avenue, AB9 2TN Scotland, U.K.

In murine trypanosomosis, increased nitric oxide (NO) production has been shown to play a significant role in immunosuppression and other pathological conditions such as anaemia. In this study, the vervet monkey (*Cercopithecus aethiops*), model of Rhodesiense sleeping sickness was used to study NO production. Serum and cerebrospinal fluid (CSF) samples were obtained from ten monkeys infected with *T. b.rhodesiense* KETRI 2537 and were assayed for nitrate. Before infection, no nitrate was detected in CSF but in serum a background concentration of approximately 62.4µM±1.84 was obtained. Following infection, the serum nitrate concentrations increased rapidly with a peak at day 28 (216µM±3.92), thereafter decreasing to pre-infection levels by day 42. In CSF, NO levels had a similiar trend although the values were lower. The NO peak corresponded to peak parasitemia, low packed cell volume (PCV) and high body temperature. This study showed that NO production is increased during trypanosomosis infections with a strong correlation with the clinical disease. Futher investigations are being carried out to generate information useful in designing appropriate treatment strategies in the management of Human African Trypanosomosis.

O-0517 THE IMMUNOPATHOGENESIS OF *LEISHMANIA DONOVANI* INFECTION IN *Nramp1* CONGENIC MICE

Evans C, Norrish A, Soo S, Blackwell J
Department of Medicine (Box 157), University of Cambridge Clinical School, Addenbrooke's Hospital, Hills Rd, Cambridge, CB2 2QQ, UK

The Natural resistance associated macrophage protein gene (*Nramp1, Ity/Lsh/Bcg*) regulates macrophage activation for antimicrobial activity. To investigate the mechanisms by which *Nramp1* influences susceptibility to intracellular infection, *Nramp1* B10.L-Lsh^r (N20) resistant and B10 susceptible congenic mice were infected with *Leishmania donovani* amastigotes in duplicate experiments.

Fifteen days post infection the hepatic parasite count was more than one log unit greater in susceptible than resistant mice. Light microscopy revealed morphological changes in the Kupffer cell population within 24 hours of infection in resistant but not susceptible mice. Fifteen and 30 days post-infection, hepatic granulomas were significantly more numerous in susceptible animals. RNA was extracting from livers harvested during early infection and semi-quantitative RT-PCR was used to study changes in mRNA expression of murine inducible nitric oxide synthase (iNOS), interleukin-12 p40 subunit (IL-12), the neutrophil attractant chemokine KC, *Nramp1* and the housekeeping gene GAPDH. This revealed a biphasic up-regulation of iNOS, IL-12, KC and *Nramp1* mRNA expression relative to GAPDH in resistant and susceptible animals following infection. Early iNOS and KC expression were significantly greater in resistant than susceptible mice, consistent with previous *in vitro* studies of the innate immune response in transfected cell lines. By day 15, the adaptive immune response was associated with significant induction of iNOS and KC mRNA levels in both resistant and susceptible mice.

These results suggest that nitric oxide mediated parasite killing contributes to the innate immune response in *Nramp1* resistant animals but is deficient in *Nramp1* susceptible mice.

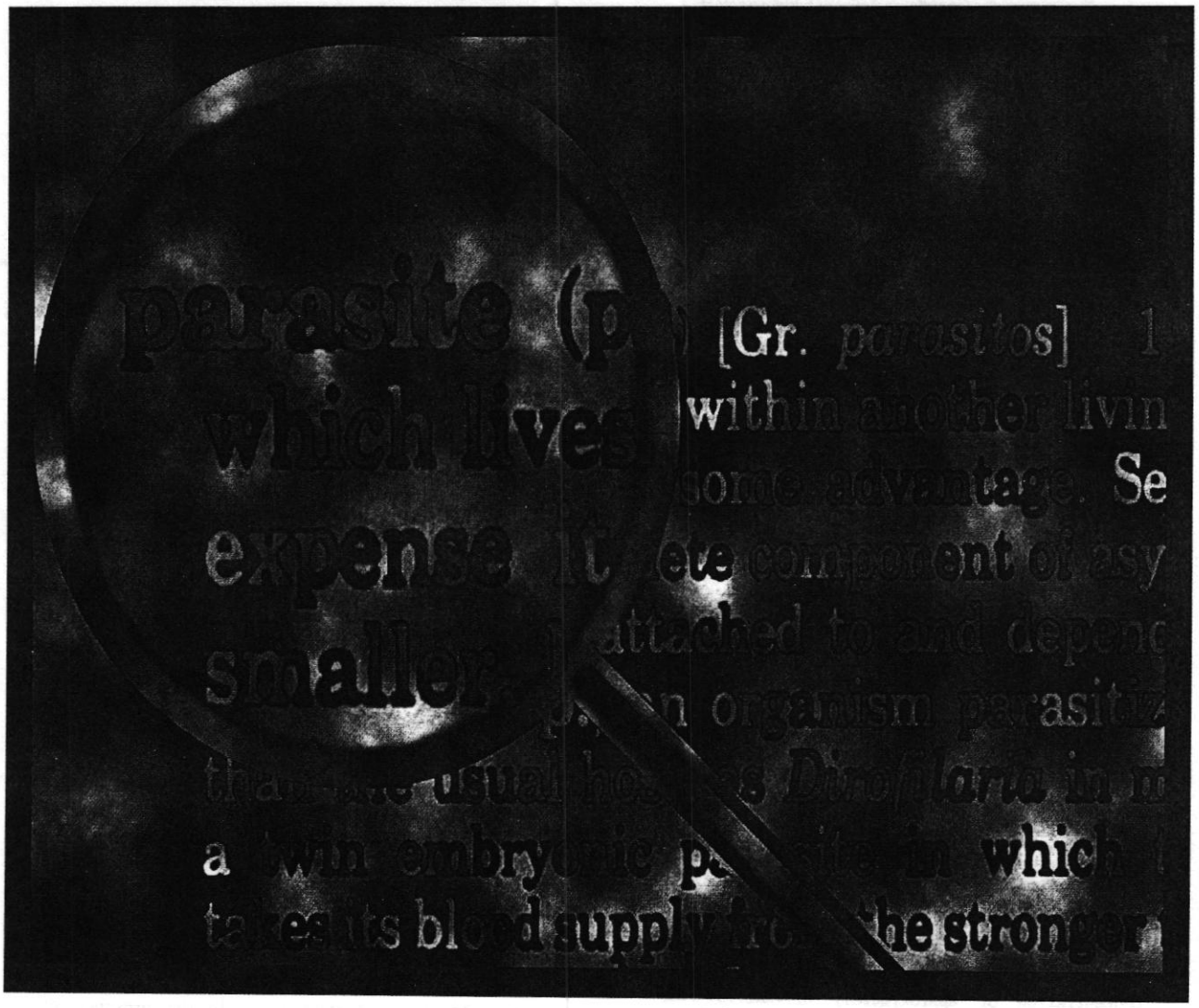
O-0518 ATNI-LEISHMANIAL ACTIVITY OF MURINE MACROPHAGES STIMULATED WITH NERVE GROWTH FACTOR

Itakura A*, Chiba R*, Katakura K**, Watanabe N**, Matsuda H*
*Department of Veterinary Clinic, Tokyo University of Agriculture & Technology, Tokyo, Japan and **Department of Tropical Medicine, Jikei University School of Medicine, Tokyo, Japan

Although nerve growth factor (NGF) is a well known neurotrophic polypeptide necessary for the normal development and function of sympathetic and sensory cells, recent findings have shown that NGF regulates immune and inflammatory responses through direct effect on immunocompetent cells including macrophages. Therefore, we investigated the possible effect of NGF on anti-leishmanial activity of murine peritoneal macrophages. NGF enhanced killing of *Leishmania donovani* promastigotes by macrophages. In the presence of various doses of NGF, macrophages showed the increased production of H_2O_2 in a dose dependent manner, but not NO_2. The anti-leishmanial activity and H_2O_2 production induced by NGF were inhibited by the addition of glutathione peroxidase, a H_2O_2 inhibitor, but not L-N^G-monomethylarginine, a NO inhibitor. Thus, these results suggest that NGF may act as a bioactive cytokine to promote anti-leishmanial activity of macrophages through the killing process dependent on H_2O_2.

VOL. 47 Supplement AUGUST 1998 ISSN 1383-5769
47 Suppl. (1998)

PARASITOLOGY INTERNATIONAL



ABSTRACTS OF THE IXth INTERNATIONAL CONGRESS OF PARASITOLOGY (ICOPA IX)

ELSEVIER