

dazole (**MBZ**), a low-cost, broad-spectrum benzimidazole widely used against intestinal parasites, is insoluble and poorly absorbed, which could be related to variable clinical results. Two novel MBZ formulations were designed to improve its solubility and absorption rate, a nanoparticulate system (**Np**) and an inclusion complex with β -cyclodextrin citrate (**Comp**). This research aimed to evaluate the *in vivo* anthelmintic activity of the systems compared with pure MBZ, against the encysted parasite, in the parenteral phase of infection. Adult mice of both sexes of the susceptible CBI+ line (CBI-IGE stock) were orally infected with 2 *Ts* L1 infective larvae/g bw (n=6 per treatment, per sex). Animals were non-treated (controls, **C**) or treated with a daily oral dose of **MBZ**, **Np**, or **Comp** (15 mg MBZ/kg bw) on days 27, 28, and 29 post-infection. Mice were euthanized seven days after the last dose to estimate larval muscle load (number of L1 larvae/g fresh tissue, rLL) and larvae reduction rate (LRr, %). No significant differences were observed between males and females in any of the groups. **MBZ** did not show an effective antiparasitic activity since rLL of mice treated with the pure drug did not differ from the controls (mean \pm SEM, **C**: 891 \pm 118.0; **MBZ**: 1107 \pm 155.3). The formulations produced a significant decrease in the parasite load (**Np**: 97 \pm 25.3; **Comp**: 69 \pm 9.5), compared with that of the controls (**P**<0.002) or the MBZ-treated group (**P**<0.0004). Accordingly, LRr was 0 % for **MBZ**, 82 % for **Np**, and 91 % for **Comp**-treated mice. The therapeutic efficacy achieved by the formulations suggests that both preparations would allow the use of lower doses of the antiparasitic, thus reducing the possible toxic effects of the treatment.

8. (316) DISPENSE OF ANTIBIOTICS IN ASSOCIATION WITH FIXED DOSES IN A PHARMACY OF AN UNIVERSITY SOCIAL SECURITY INSTITUTE OF CORRIENTES, 2020

María Teresa Rocha¹, Sergio Daniel Morales¹, Valeria Burgos¹, Mirta Liliana Mierez¹, María Mercedes González², Lorena Dos Santos Antola¹.

1. School of Medicine. National University of the Northeast
2. Institute of Social Services of the National University of the Northeast

Antibiotics (ATB) are essential medicines for human health, but their massive and indiscriminate use increases the development of resistance. At the same time, in the pharmacological market they are offered in associations at fixed doses (AFD) that are not always rational, which exposes the patient to a greater risk of having adverse effects. The objective of this study was to characterize ATB in the form of AFD dispensed on an outpatient basis in an University Social Security Institute, during the year 2020. An observational, descriptive, cross-sectional study of drug use (SDU) was carried out. The dose unit (DU) was used as a quantitative indicator of outpatient dispensing and the Potential Therapeutic Intrinsic Value (PTIV) as a qualitative indicator, methodologies recommended by Laporte and Tognoni. Of a total of 1,364 outpatient dispensations of ATB, 164 (12%) were AFD, 56% for the female sex. Average age: 42 years; range: 2 to 79 years. The 164 AFD contained a total of 2356 DU, corresponding to amoxicillin + ambroxol (516 DU), norfloxacin + phenazopyridine (350 DU), clarithromycin + ambroxol (338 DU), amoxicillin + acetylcysteine (336 DU), amoxicillin + clavulanic acid + ambroxol (336 DU), amoxicillin + diclofenac (280 DU), ampicillin + dipyrrone + guaifenesin (200 DU). Qualitatively, 114 (69.51%) had relative PTIV and 50 (30.48%) had unacceptable PTIV. These findings require special attention, because the consumption of this type of AFD is considered irrational according to the Laporte and Tognoni classification; generates potential risk of the appearance of adverse events and pharmacological interactions, increases health costs and their indiscriminate use can become a risk factor for the development of bacterial resistance, a current scourge that gives rise to numerous global initiatives and campaigns aimed at its solution.

9. (319) ANTHELMINTIC ACTIVITY OF STEVIA ARISTATA EXTRACT ON ECHINOCOCCUS GRANULOSUS: IN VITRO AND IN VIVO STUDY

Albani C.M.¹, Borgo J.^{2,3}, Fabbri J.¹, Pensei P.¹, Fasciani L.¹, Hernández N.³, Paladini A.⁴, Sülsen V.^{2,3}, Elissondo C.¹

¹. Laboratorio de Zoonosis Parasitarias, Instituto de Investigaciones en Producción, Sanidad y Ambiente (IIPROSAM)

(UNMdP-CONICET).

2. Instituto de Química y Metabolismo del Fármaco (IQUIME-FA) (UBA-CONICET).

3. Cátedra de Farmacognosia, Facultad de Farmacia y Bioquímica, Universidad de Buenos Aires.

4. Cátedra de Parasitología Comparada, Facultad de Ciencias Veterinarias (UNLP).

Cystic echinococcosis (CE) is a worldwide zoonotic disease caused by *Echinococcus granulosus*, which produces long-term infections in humans and animals. Available anti-parasitic treatment against CE is mostly limited to the use of benzimidazoles, mainly albendazole (ABZ). However, it has undesirable side effects and their efficacy is about 50%. Based on the problematic described, new treatment alternatives are urgently needed. Plants from the *Stevia* genus (Asteraceae) are a potential source of anti-protozoal and anti-microbial compounds. The aim of the present study was to evaluate the *in vitro* and *in vivo* efficacy of the *Stevia aristata* dichloromethane extract against *E. granulosus*. Viable and free protoscoleces or cysts were treated with 100, 50, 10 and 5 μ g/ml of the extract. Viability assessment using the methylene blue exclusion test and scanning electron microscopy (SEM) (for protoscoleces) or evaluation of germinal layer collapse (for cysts) was performed. CF-1 mice (n=30) infected with *E. granulosus* were allocated into the following experimental groups (6 months post-infection): (1) Control, (2) ABZ 25 mg/kg, every 24 h for 30 days; (3) *S. aristata* 50 mg/kg, every 24 h for 23 days. At the end of the treatment the weight of the cysts was recorded and samples were analysed by SEM. Protoscoleces viability decreased quickly with 100 μ g/ml, reaching 0% after 20 days of treatment. After 4 days of incubation, the collapse of the germinal layer was observed in 60 \pm 5.8% and 83.3 \pm 12.0% of cysts treated with 50 and 100 μ g/ml, respectively. Whilst ultrastructural damage was observed in the cysts obtained from *S. aristata* or ABZ treated mice, no significant differences in the weight of the cysts were obtained (**P** > 0.05). In conclusion, *S. aristata* treatment caused high protoscolicidal and cysticidal effects, but not significant reduction in the weight of the cysts in experimentally infected mice.

10. (366) NANOBODIES WITH NEUTRALIZING PROPERTIES AGAINST SARS-COV-2 VIRUS AS PROMISING MOLECULES FOR COVID-19 TREATMENT

Lorena Itatí Ibañez¹, María Florencia Pavan¹, Marina Bok^{2,3}, Juan Pablo Malito^{2,3}, Gisela Ariana Marcoppido⁴, Diego Rafael Franco⁵, Juan Manuel Schammas⁵, Elsa Baumeister⁶, Jonathan Auguste⁷, Lijuan Yuan⁸, Andrés Wigdorovitz^{2,3}, Viviana Parreño^{2,3}.

1. CONICET Universidad de Buenos Aires, Instituto de Química Física de los Materiales, Medio Ambiente y Energía (INQUIMAE), 2. Incuinta, Instituto Nacional de Tecnología Agropecuaria (INTA), 3. Instituto de Virología e Innovaciones Tecnológicas, Consejo Nacional de Investigaciones Científicas y Técnicas (IVIT-CONICET), 4. Instituto de Investigación Patobiología, Centro de Investigaciones en Ciencias Veterinarias y Agronómicas (CICVyA), Instituto Nacional de Tecnología Agropecuaria (INTA), 5. Instituto de Virología, Centro de Investigaciones en Ciencias Veterinarias y Agronómicas (CICVyA), Instituto Nacional de Tecnología Agropecuaria (INTA), 6. Servicio de Virosis respiratorias, Centro Nacional de Influenza de OMS, Laboratorio Nacional de Referencia de Enfermedades Respiratorias Virales del Ministerio de Salud, Departamento de Virología (INEI-ANLIS) "Dr. Carlos G. Malbrán", 7. Department of Entomology, Fralin Life Science Institute, Virginia Polytechnic Institute and State University, Blacksburg, USA, 8. Department of Biomedical Sciences and Pathobiology, Virginia-Maryland College of Veterinary Medicine, Virginia Tech, Blacksburg, USA.

The COVID-19 disease caused by the coronavirus SARS-CoV-2 is the major outbreak in the last decades. Several vaccines have been approved to prevent the disease, however therapeutic and prophylactic molecules than can mitigate its symptoms, especially in cases where vaccines are ineffective or contraindicated, are still a necessity. The virus can infect cells through the interaction of the