weight). The roasted IP extract was prepared according Pharmacopoeia, and administrated by intragastric gavage. The experiments were performed in accordance with the principles for animal experimentation. After treatment intervention (30 days), plasma concentrations of total cholesterol, high-density lipoprotein colesterol (HDL), triglyceride, and glucose were evaluated using WienerLab (Rosario, Argentina). Plasma LDL cholesterol concentration was calculated according to the formula: CHOL–(triglyceride/5 + high-density lipoprotein. Comparisons among groups of data were done using one-way ANOVA followed by the Dunnett Multiple Comparisons test. An associated probability (P value) of <5% was considered significant. The results found that old mice treated with IP extract exhibited attenuation of weight gain, and restoration of the serum levels of cholesterol, triglycerides, LDL cholesterol, and glucose. In conclusion, the data show that IP extract has potent bioactivity in vivo. There are data showing that animal models are a useful tool to evaluate the efficacy of potential compounds in the prevention and treatment of obesity.

63. (31) **EFFECTS OF CARROT FIBRE ON BIOCHEMICAL PARAMETERS IN MATURE MICE**

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Carrot is one of the important root vegetables rich in bioactive compounds like dietary fibers having significant health-promoting properties. Large quantities of carrots are annually discarded in different parts of Argentina because they do not meet market standards. Besides the economic loss to the producers, the discard poses an environmental problem. In order to decrease the environmental impact produced by carrot discards and increase the sustainability of this important primary crop. The Group of revaluation of discards (FIQ-UNL-CONICET), developed a process of extraction of by-products of discarded carrots, in particular fibers. It is known that; carrot fiber is a very suitable tissue for food supplementation. Thus, the aim of the present study was to evaluate the effects of carrot fibre on weight loss and related biochemical parameters in mature mice. Thirty-two animals were randomly assigned to four groups according to the treatment (standard food or fibre 1.0 g/kg body weight). The experiments were performed in accordance with the principles for animal experimentation. After treatment intervention (90 days), plasma concentrations of total cholesterol, high-density lipoprotein cholesterol (HDL), triglyceride, and glucose were evaluated using Wiener-kits Diagnostics (Rosario, Argentina). Plasma LDL cholesterol concentration was calculated according to the formula: CHOL–(triglyceride/5 + high-density lipoprotein. Comparisons among groups of data were done using one-way ANOVA followed by the Dunnett Multiple Comparisons test. An associated probability (P value) of <5% was considered significant. During this first study, the consumption of the fibre resulted in an alteration of all parameters evaluated. No microscopic or macroscopic alterations were observed in the organs of interest, related to the treatments. These results suggest that orally administered fibre may provide beneficial effects on metabolism, without obvious undesirable effe

64. (109) **DRUGS USED FOR THE TREATMENT OF GASTRIC HYPERACIDITY IN AFFILIATES OF THE UNIVERSITY SOCIAL SECURITY INSTITUTE IN CORRIENTES CITY, 2019.**

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Drugs for the treatment of gastric hyperacidity are widely used, often without scientific basis, subjecting the patient to possible risks and generating an increase in healthcare costs. Objective: To characterize the dispensing of drugs used for the treatment of gastric hyperacidity in the pharmacy of the University Social Security Institute of Corrientes. Materials and methods: A quantitative, descriptive and cross-sectional study was carried out during 2019 in which outpatient dispensations of drugs used for the treatment of gastric hyperacidity were analyzed. The drugs were classified quantitatively according to the Anatomical, Therapeutic, Chemical Classification of Medicines of the World Health Organization. Dispensations that included drugs with action on the digestive system and metabolism (A), specifically the ones used for the treatment of gastric hyperacidity (A02), were selected, and the defined daily doses (DDD) were calculated. Descriptive statistics were performed. Results: Of 43,748 drugs in group A, 7,164 (16.38%) were A02. Of these, 6,404 (89%) were monodrugs and 760 (11%) were fixed-dose combinations (CDF). 55% were Women. Average age was 54.77 (SD +/- 12). The DDD of A02 as monodrugs: proton pump inhibitors (PPIs): Omeprazole (72,549), Esomeprazole (43,228), Pantoprazole (31,934), Dexlansoprazole (13,260) and Rabeprazole (1,442); H2 receptor antagonists: Ranitidine (20,190.40). Other agents against peptic ulcer and gastroesophageal reflux: Sucralfate (1,460). Of the CDFs, the A02s most dispensed were: Ranitidine (378), magnesium salts (140), Omeprazole (79), Famotidine (50) and Misoprostol (5). Conclusions: Within the A02s, PPIs represent the majority of the drugs dispensed. In recent years, there has been an increase in the prescription of drugs, making it necessary to request for them to be used only for accepted indications and for the appropriate time.

65. (110) **DRUG UTILIZATION STUDY: BENZODIAZEPINES PRESCRIBED IN A UNIVERSITY SOCIAL SECURITY INSTITUTE. CORRIENTES CITY, 2020**

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Benzodiazepines (BZD) are one of the most prescribed drugs in the world to treat anxiety and insomnia, but their use is not without risk. Objective: to characterize the prescription of BZD in a University Social Security institute. Materials and methods: a descriptive, cross-sectional study was carried out in which all BZD outpatient dispensations from January to May/2020 were analyzed. The Anatomical, Therapeutic, Chemical classification of Medicines (ATC-2020) of the World Health Organization was used. Subgroups N05CD (Derived from BZD) and N05CF (Related to BZD) were exclusively selected; and the defined daily doses (DDD) were calculated. Qualitative classification: Potential Intrinsic Therapeutic Value (Laporte-Tognoni) was used. Data was analyzed in Excel spreadsheet. The 8 mg DDD (as an anticonvulsant) was adapted to a non-antiepileptic dose of 1 mg/day. Results: 3,449 drugs with action on the central nervous system (CNS) were prescribed, of which 2,489 (72%) were BZD: 2,131 (85.6%) as mono-drugs and 358 (14, 4%) as fixed-dose combinations (CDF). Median age: 56 (SD +/- 14). Range: 3 to 94 years old, 1102 (44%) prescriptions were in patients ≥ 60 years. Prescriptions for females: 1,483 (59.6%). BZD most prescribed as mono-drugs and their respective DDDs: Clonazepam (62,071), Alprazolam (33,585), Lorazepam (4,574), Diazepam (2,550), Zolpidem (5,946), Bromazepam in CDF: 312. Conclusions: BZDs were the most frequent drugs prescribed within drugs of action on the CNS, the majority in women, with a median close to the third age, high percentage in people ≥ 60 years. Clonazepam and alprazolam were the BZD most prescribed as mono-drugs, bromazepam in irrational CDF. Its high consumption exposes this population group to serious health risks, ranging from memory disorders, traffic accidents and an increase in the probability of the appearance of Alzheimer's dementia.

66. (111) **ASSESSMENT OF THE INFLUENCE OF THE ANTIHISTAMINE AZELASTINE ON THE ONSET OF GLUCOCORTICOID-INDUCED ADVERSE EFFECTS. CONSEQUENCES ON BONE METABOLISM.**

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We have previously described *in vitro* that histamine H1 receptor ligands potentiate the anti-inflammatory effects of glucocorticoids (GCs) and established its therapeutic potential in a murine asthma model. Though, it is crucial to evaluate how this crosstalk alters the onset of GC-induced adverse effects to assess cotreatment safety. Considering that the therapeutic use of GCs is often limited by bone loss, we used the MC3T3-E1 osteoblastic cells differentiated with ascorbic acid and β-glycerophosphate as an *in-vitro* model to study the joint effect of dexamethasone (DEX) and the antihistamine azelastine (AZE) on the expression of bone biomarkers determinants of the balance between bone formation and resorption. Treatment of the cells with 0.1 nM DEX reduced osteoprotegerin (OPG) and increased receptor activator of NF-kB ligand (RANKL) expression in a 17% and 100% respectively, while pre-treatment with 10 μM of AZE reversed both effects by increasing OPG and decreasing RANKL expression in a 92% and 66% respectively ($p<0,05$). Additionally, treatment with 1 nM DEX reduced osteocalcin (OC) gene expression in 48%, while in cells pre-treated with 10 μM AZE this reduction was 16% ($p<0,05$). These findings suggest that co-treatment might represent an advantage in terms of bone impairment. We also performed the MTS metabolic assay to assess the effect of AZE on cell proliferation. Treatment with DEX inhibited cell proliferation in a concentration-dependent manner, reaching the maximal effect at 1 μM, while pretreatment of cells with 1 μM AZE potentiated DEX inhibition, evidenced by a reduction of its pEC50 in one order of magnitude (8.28 ± 0.44 to 9.38 ± 0.2, $p<0,05$). In contrast with our previous results, this suggests that cotreatment might be unsafe in terms of bone impairment. Overall, these discrepancies grant further research to elucidate the composite effect and the molecular mechanisms by which antihistamines modulate the appearance of GC-induced adverse effects.

67. (183) **MOLECULAR PHARMACOLOGY OF *CAENORHABDITIS ELEGANS* SEROTONIN-GATED CHLORIDE CHANNEL MOD-1 AS A NOVEL DRUG TARGET FOR ANTHELMINTIC THERAPY**

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Serotonin-gated ion channels (5-HT_3) belong to the family of Cys-loop receptors, which are pentameric proteins that mediate fast synaptic transmission. In mammals, 5-HT_3 are non-selective cationic channels that can be homomeric (5-HT_3A) or heteromeric. *Caenorhabditis elegans* is a model for the study of the nervous system and for antiparasitic drug discovery. As parasitic nematodes, *C. elegans* contains a homomeric 5HT-gated chloride channel, MOD-1, that modulates locomotory behavior. Due to its absence in vertebrates, MOD-1 emerges as a potential antiparasitic drug target. We deciphered its pharmacological properties and searched for novel ligands by patch clamp recordings from mammalian cells heterologously expressing MOD-1. Macroscopic currents activated by 5-HT showed that MOD-1 does not rectify, desensitizes slowly, and recovers from desensitization with a time constant of 1 s. Dose-response curves revealed an EC_{50} for 5-HT of about 1 μM, similar to that of human 5-HT_3A receptors. However, compared to their actions as partial agonists of human 5-HT_3A receptors, tryptamine showed markedly increased efficacy and 2-Me-5HT showed insignificant agonist activity at MOD-1. The typical anthelmintic drugs ivermectin (IVM), levamisole, and piperazine, which are agonists of GluCl, L-AChR and GABA receptors, respectively, did not activate MOD-1. However, IVM produced a slight and piperazine a profound inhibition of 5-HT activated MOD-1 currents. The analysis revealed that piperazine is a noncompetitive antagonist of MOD-1. To gain further insights into the molecular function of the native MOD-1, we also recorded 5HT-activated chloride channels from *C. elegans* neurons expressing MOD-1 and compared to those heterologously expressed in mammalian cells. The elucidation of the molecular pharmacology of MOD-1 contributes to our knowledge of the function and drug selectivity of Cys-loop receptors and to its potential as a novel target for anthelmintic therapy.

68. (286) **LOCAL EFFECTS OF LOW DOSES OF PTH 1-34 ON EXPERIMENTAL PERIODONTITIS**

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Periodontitis is a highly prevalent, chronic disease that induces a progressive bone resorption. Intermittent PTH administration has anabolic and anti-inflammatory effects, two properties necessary to achieve bone recovery. Periodontal disease can be experimentally induced in rats in few days, via cotton ligatures placement in the gingival sulcus around the molar teeth, that increases biofilm accumulation and disruption of the gingival epithelium, enhancing osteoclastogenesis and bone loss. We investigated whether intermittent administration of a low dose of PTH 1-34 in rats would block the alveolar bone loss observed when the ligature model of periodontitis was used. Periodontitis was induced in 16 female Wistar rats (221±15g) under light anesthesia. Ligature was replaced every 4 days. Rats were randomly divided in two groups and subcutaneously injected every 48 hs for 18 ds. with: G1 saline solution and G2 1.2ug PTH1-34. Eight rats were left unligated as healthy control. After killed hemimandibles were extracted and fixed in formalin buffer for histologic analysis of tibia subchondral bone volume (BV/TV%), alveolar bone BV/TV% and periodontal space height (PSH). Results: tibia BV/TV%: C 38.77±2.59; G1 38.29±3.9 and G2 37.75±1.45; alveolar bone BV/TV% C 50.3±3.6c; G1 35.6±4.3a and G2 42.0±1.4b; PSH (mm): C: 0.196±0.057a; G1 0.809±0.115b and G2: 0.706±0.065c. Different letters show a $p<0.05$. The results evidenced no systemic effect of PTH treatment on the tibia. Alveolar bone composed by trabecular bone showed a significant recovery. The PSH evidenced a little recovery but a greater percentage of osteoid tissue as compared to untreated rats. Conclusion: Intermittent low doses of PTH administration diminishes alveolar bone loss, but increases osteoid formation, suggesting that intermittent PTH administration attenuates periodontitis alveolar bone loss by the induction of tissue regeneration. Grant of Rio Negro National University. PI UNRN 40-A-467.

69. (339) **COMPARATIVE ANALYSIS OF THE SAFETY PROFILE OF EQUINE HYPERIMMUNE SERUMS IN ARGENTINA.**

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In Argentina, 8 hyperimmune sera (F(ab')2 fragments of purified equine immunoglobulins) are distributed free of charge for the treatment of different types of ophidian envenenation (Bivalent Botropic, Tetravalent Botropic, Crothalic and Elapidic antivenoms), and arthropod envenenation (latrodectic, loxoscelico, phoneutria and scorpionic antivenoms) with a pattern of use and particular safety that makes it difficult to compare with other medications. The reports of the envenenation surveillance program (8 years) were compared with the international VigiBase registries (45 years). The reported reactions were classified by MedDRA, severity and seriousness. Frequencies were corrected for time, and average frequencies were compared with international reports. A total of 1,250 envenenation reporting forms using antivenoms were analyzed. A total of 88 adverse reactions were described (7.04% of patients), corresponding to 75 early reactions (mostly nauseas, vomiting, and local reactions), and 13 late reactions (linked to possible cases of serum sickness). A total of 88,98% of cases were non-serious adverse reactions, Reactions were predictable (87%), preventable (94%) and required medical treatment in only 15% of cases. All of them evolved