Results: A significant increase (P < 0.05) in feed consumption, body weight gain, relative weights of testis and epididymis and intratesticular cholesterol level, follicle stimulating hormone (FSH), luteinizing hormone (LH), and prolactin was found in rats received dimethoate. On the other side, a significant decrease (P < 0.05) in absolute weight of testes and epididymis, serum cholesterol and testosterone levels, serum acetylcholine esterase (AChE) activity, total sperm count, motility and fertility index was observed compared with the control group. Histopathologic results also indicated enlargement of interstitial space, inhibition of spermatogenesis, and variable degrees of degenerative changes in the seminiferous tubules up to total cellular destruction.

Conclusion: Our results proved that dimethoate, could act as neuroendocrine disruptor via inhibition of AChE activity and increase of acetylcholine level in brain. This effect might be linked to the suppression of the brain's release of hormones that stimulate the gonadotrophic hormones (LH and FSH). So we have to be aware that dimethoate has detrimental effects on the male rat reproductive system.

Disclosure of Interest: None declared.

PP239—SUSCEPTIBILITY OF LEPTOSPIRA TO XANTHONES AND SYNERGISTIC EFFECTS WITH ANTIBIOTICS

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Introduction: Leptospirosis has emerged as a globally spread infectious disease that is caused by spirochete bacteria of the genus Leptospira. Xanthones from pericarp of Garcinia mangostana and their analogs widely used as medicinal agents against several infectious diseases were examined for inhibitory activity and investigated for synergistic effects with antibiotics against Leptospira spp.

Patients (or Materials) and Methods: The minimal inhibitory concentrations (MIC) of 5 purified xanthones and 8 xanthone analogs were determined against 1 nonpathogenic L. biflexa serovar Patoc and four pathogenic L. interrogans serovars Bataviae, Autumnalis, Javanica, and Saigon by using broth microdilution test. The synergistic effects with penicillin G or ampicillin were evaluated by calculating the fractional inhibitory concentration (FIC) index.

Results: The 2 xanthones from mangosteen, γ-mangostin and garcinone C, and the 2 xanthone analogs, 1,3,8-trihydroxyxanthone and 1,3-dihydroxyxanthone, showed the highest antileptospiral activities with the MIC varying from 100 to ≥800 µg/mL. Combinations of γ-mangostin with penicillin G and 1,3,8-trihydroxyxanthone with ampicillin generated synergistic effects at the FIC index of 0.05 to 0.75 and 0.51 to 0.75, respectively. However, antagonistic activity against L. interrogans serovar Saigon was observed when combining γ-mangostin with penicillin G.

Conclusion: The results demonstrated that the xanthones from G. mangostana and hydroxyxanthone analog inhibited growth of leptospires and there were synergistic effects between these xanthones and antibiotics, which could enhance the efficacy of both drugs for the treatment of leptospirosis.

Disclosure of Interest: None declared.

PP240—PHARMACEUTICAL QUALITY OF GENERIC LEVODOPA/BENSERAZIDE PRODUCTS

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Introduction: Objective: To compare the pharmaceutical quality of 7 generic levodopa/benserazide combination products marketed in Germany with the original product (Madopar® / Prolopa®). Madopar®/ Prolopa®is a combination of levodopa (L-Dopa), the precursor of dopamine (DA), and benserazide, a dopamine decarboxylase inhibitor (DDCI). It is indicated in the treatment of Parkinson’s disease, dopamine-responsive dystonia, and restless legs syndrome.

Patients (or Materials) and Methods: Madopar®/Prolopa®125 tablets and capsules were used as reference materials. The generic products tested (all 100 mg/25 mg formulations) included 4 tablet formulations (ie, Levodopa/Benserazid beta [Betapharm], Levodopa/Benserazid-CT [CT Arzneimittel], dopadura B [Mylan dura], and Levodopa/Benserazid ratiopharm [ratiopharm]) and 3 capsules
PP241—POtential effect of the medicinal plants; calotropis procera, ficus elastica and zingiber officinale against schistosoma mansoni in mice
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Introduction: Although no clinically relevant resistance to the only schistosomidaic drug praziquantel (PZQ) has been described to date, development of drug resistance remains a growing threat. Calotropis (C.) procera, Ficus (F.) elastica, and Zingiber (Z.) officinale are well-known medicinal plants and have been traditionally used for many diseases. The present work aimed to evaluate the antischistosomal activity of these plant extracts against Schistosoma (S.) mansoni.

Patients (or Materials) and Methods: Male mice exposed to 80 ± 10 cercariea/mouse were divided into 2 batches. The first was divided into 5 groups; (I) infected untreated, while groups from (II–V) were treated orally (500 mg/kg for 3 consecutive days) by aqueous stem extract of F. elastica, latex of C. procera, and ether extract of Z. officinale, respectively. The second batch was divided into 4 comparable groups (except Z. officinale–treated group) similarly treated as the first batch in addition to the antacid ranitidine (30 mg/kg) 1 hour before extract administration. Safety, worm recovery, tissue egg load, and oogram pattern were assessed.

Results: Results indicate that C. procera latex and flower extracts are toxic even in small doses before washing off toxic rubber. Z. officinale extract produced numerical insignificant decrease (7.26%) in S. mansoni worms. When toxic rubber was washed off and the antacid ranitidine used, C. procera (stem latex and flowers) and F. elastica latex extracts revealed significant antischistosomal worm reductions by 45.31%, 53.7%, and 16.71%, respectively. Moreover, C. procera extracts produced significant reductions in tissue egg load (= 34%–38.5%) and positively affect the oogram pattern.

Conclusion: The present study may be useful to supplement information with regard to C. procera and F. elastica antischistosomal activity and provided a basis for subsequent experimental and clinical trials.

Disclosure of Interest: None declared.

PP243—THE POTENTIAL ANTICANCER EFFECT OF AZO DYES
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Introduction: Dyes containing an azo (N = N) group are widely used in the food, pharmaceutical, cosmetic, and textile industries to provide color to products. Reports on the potential carcinogenicity of specific azo dyes, like Sudan I, has resulted in it being banned from use as a food additive. The association of theazo dyes, Tartrazine and Sunset Yellow, with the attention-deficit/hyperactivity syndrome has further vilified azo dyes and focused scientific interest on its potential harmful effects. In an attempt to improve understanding of the azo dyes and in a search for new lead compounds for cancer drug development, we have investigated the effects of a panel of 24 azo dyes on the survival of cancer cell lines.

Patients (or Materials) and Methods: A T-cell leukemia cell line (Jurkat) and a breast cancer cell line (MCF7) was maintained aseptically in culture according to standard procedures. Cells were exposed to azo dyes, and their effects on cell growth and viability was determined by [3H]-thymidine incorporation into DNA. Labeled thymidine incorporation into DNA was measured by precipitating DNA on glass fiber filters followed by liquid scintillation counting. Log dose-response curves were then constructed using the Graph-Pad Prism software package.

Results: Four of the 20 compounds inhibited the proliferation of both Jurkat and MCF7 cells with IC50 values ranging between 28 and 82 micromoles. MCF7 cells were inhibited by Eriochrome Black B and Eriochrome Black T with IC50 values of 28.43 (1.13) and 37.22 (4.6) µM, respectively. Jurkat cells were most sensitive to Eriochrome Black T with an IC50 value of 38.69 (2.26) µM compared with Eriochrome Blue Black with an IC50 value of 79.95 (1.01). Furthermore, Palatine Chrome Black 6BN and 4-phenylazophenol inhibited Jurkat cells with IC50 values of 82.04 (1.02) and 72.61 (1.03) µM, respectively. These data support previous reports regarding the anticancer properties of Eriochrome Black T.

Conclusion: This preliminary study identified 4 azo dyes whose structures can serve as lead compounds for new cancer drug development. Further studies will investigate the effects of azo dyes on cell lines derived from other cancers and determine the potential of the active dyes to induce apoptosis.

Disclosure of Interest: None declared.

PP244—Therapeutic and supra-therapeutic intravenous doses of mavoglurant (AF0056) do not proLong the QTc interval in healthy subjects
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