from two different pediatric emergency services, and randomly chosen 219 school children of 6 and 13 years of age from different socioeconomic environments and who did not have diarrhea. Stool samples were prepared with native-lugol and examined and then stained with trichrome and further examined under a light microscope.

Genomic DNA was extracted from the stool samples using QIAamp® DNA Stool Mini Kit The extracted DNA samples were examined in terms of the presence of Blastocystis sp. using the real-time PCR method with the genesig® Standard Kit (Primer Design., UK) designed for the quantification of the *Blastocystis* G elongation factor-1 alpha gene. The PCR was performed using seven subtype-specific sequenced tagged site (STS) primers (SB83, SB155, SB227, SB332, SB340, SB336 and SB337) for the genotyping of Blastocystis sp. The collected data was analyzed using the SPSS (Version 17, Chicago IL, USA).

Results: 115 samples were found positive for *Blastocystis* sp.. Subtyping was successfully performed on 46 samples using sequenced-tagged site (STS) primers and the PCR method. The most frequently detected subtype was ST3 (43.4%) followed by ST1 (26.1%), ST4 (10.9%) and ST2 (8.7%). The mixed subtypes were identified in five samples (10.9%) as; ST1+ST3 (n = 3), ST1+ST2 (n = 1) and ST2+ST3 (n = 1). None of the samples had ST5, ST6 or ST7. No statistically significant difference was found between the symptomatic and asymptomatic groups in terms of the *Blastocystis* sp. positivity and the distribution of subtypes ($p > 0.05$).

Conclusion: This is the first study conducted to investigate the subtype distribution of *Blastocystis* sp. in children in Turkey and the findings obtained from this study are in agreement with the related data available in Turkey.

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Detection of Blastocystis sp. Infection using different investigation techniques in children with or without acute diarrhea

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Background: *Blastocystis* is a common human intestinal parasite with high prevalence in developing countries and one of the causative agent for acute infectious diarrhea. Microscopic methods such as native-lugol and trichrome staining are most frequently used in routine diagnosis. Our study to evaluate the prevalence of *Blastocystis* in children in Eskisehir, Turkey with or without acute diarrhea, using direct microscopy, trichrome stain and real-time polymerase chain reaction (PCR) technique.

Methods & Materials: Study was carried out between January 2011 and March 2013 in Eskisehir city center in children. They were admitted to the emergency unit with acute diarrhea and school children without diarrhea from seven different socioeconomic backgrounds have been enrolled. Stool specimens were investigated by routine fecal examinations in the Parasitology laboratory of Eskisehir Osmangazi University Education and Research Hospital. We investigated 961 stool samples taken from children. We have a limited number of molecular tests therefore 303 samples have been evaluated with these three methods. All of the symptomatic childrens stool samples (n = 84) were chosen for moleculer test and in asymptomatic children's stool samples (n = 219) we were chosen by randomly selection.

Results: *Blastocystis* were seen in 38.6% of samples with direct microscopic examination, 35.6% of samples by the trichrome stain, 38.2% by PCR method. In symptomatic group respectively; 14.2%, 19.0% and 19.0% also asymptomatic group ratio respectively; 47.9%, 42.0% and 45.6%. In the symptomatic group, compared to PCR-based evaluation of *Blastocystis* infection, for direct microscopic evaluation the sensitivity was 12.5% and the specificity was 85.2%, while for trichrome staining 31.2% and 83.8% respectively while the negative predictive value was 80.5% and 83.8%, respectively. In the asymptomatic group, compared to PCR-based evaluation of *Blastocystis* infection, for direct microscopic evaluation the sensitivity was 74.0% and the specificity was 73.9%, while for trichrome staining 59.0% and 72.2%.

Conclusion: PCR is a useful technique for the evaluation of fecal samples in acute diarrhea for *Blastocystis sp.* Direct microscopic evaluation can be used to rule out Blastocytis infection in children with acute infectious diarrhea but there are needed multicenter and large-scaled molecular and clinical studies.

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In vitro activity of different 5-nitroimidazole derivatives and essential oils against Trichomonas vaginalis

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Background: Trichomoniasis is a common sexually transmitted disease (STD) caused by *Trichomonas vaginalis*. Treatment of trichomoniais is usually achieved by 5-nitroimidazole derivatives. But some resistant strains to treatment failures of metronidazole have been reported and also numerous side effects, so it is continuing the search for alternative treatments. We evaluated in vitro effective concentrations of different 5-nitroimidazole derivatives and essential oils against *T. vaginalis*

Methods & Materials: *T. vaginalis* was grown in TYM medium which was supplemented bovine serum and Vitamin B12. The in vitro minimum lethal concentrations (MLC) and the time for drug efficacy were determined 48 hour cultured. The number of trophozoites were adjusted to 10^5 parasite/ml using hematocytometer. Metronidazoleand and two different ornidazole were prepared at concentrations 450 mg/ml. also standart corvacrol, *Origanum vulgare subsp.hirtum* oil and tea tree oil concentrations were prepared at concentrations 0.1ml/10 ml in steril saline solution. The activity of trophozoites was evaluated at 0-2-24-48 hours using trypan blue and compared to growth and effective concentrations((EC_{50}s, EC_{90}s and EC_{100}) were calculated

Results: All of the tree different 5 Nitroimidazole derivates commercial drugs were able to reduce %50 of the viable trophozoites after 24 hours with metronidazole at 0.78-1.56 μg/ml; while two different ornidazole at 6.25 μg/ml concentrations. In the essential oils, only *Origanum vulgare subsp.hirtum* was able to reduce 50% viable trophozoites in first 24 hours. There was over all little difference in the reduction of %90 of the viable trophozoites between ornidazoles which is 12.5 μg/ml and 12.5-25 μg/ml respectively though the %90 reduction of trophozoite viability was at 25 μg/ml for metronidazole. Essential oils reduced %90 of the viable cells at concentrations between 50-100 μg/ml. After 24 hours complete inhibition of viability (EC100) was at 25 μg/ml for ornidazole while it was higher for metronidazole and ornidazole. *Origanum vulgare subsp.hirtum* essential oil inhibited the trophozoites totally at 50 μg/ml; while the total inhibition of growth by tea oil was given after 48 hours at 100 μg/ml. Carvacrol%100 inhibitory concentration was >100 μg/ml.

Conclusion: These data suggest that *Origanum vulgare subsp.hirtum* oil may be a good candidate for treating trichomoniasis and that further investigation of this drug is warranted

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Increased transcriptional level of the H2-T23 (Qa1) and H2-Q7/Q9 (Qa2) genes during acute infection induced by two strains of Trypanosoma cruzi

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Background: Qa1 and Qa2 are non-classical MHC class Ib immunomodulatory murine molecules that exhibit high structural homology to their human functional homologs HLA-E and HLA-G, respectively. These molecules present restricted constitutive tissue expression, and little attention has been devoted to their role on infections.

Methods & Materials: In this study, we analyzed by qRT-PCR the transcription profiles of genes encoding Qa1 (*H2-T23*) and Qa2 (*H2-Q7/Q9*) molecules in heart from BALB/c and C57BL/6 mice during *Trypanosoma cruzi* experimental acute infections induced by Y or CL strains.

Results: Compared to non-infected mice, the heart expression of *Qa1* and *Qa-2* in BALB/c mice was 17-fold and 21-fold increased, respectively, while in C57BL/6 mice the transcription levels of *Qa1* and *Qa2* were 16- and 15-fold higher, respectively, during Y strain infection. For CL strain infection, the heart expression of *Qa1* and *Qa2* in BALB/c was 30- and 28-fold higher than the control group, respectively. In addition, the transcription levels of *Qa1* and *Qa2* was 24- and 25-fold increased in infected C57BL/6 mice compared to non-infected group.

Conclusion: Taken together, both infected BALB/c and C57BL/6 mouse strains exhibited increased Qa1 and Qa2 heart expression, independently of the *T. cruzi* strain, and it was not related to resistance (C57BL/6) or susceptibility (BALB/c) to the acute *T. cruzi* infection. Considering that Qa1 and Qa2 are immunoregulatory molecules that inhibit NK and T $CD8^+$ cells, the increased expression of these molecules may be interpreted as an attempt of the host to protect cardiac fiber destruction, controlling the inflammatory process, cytolysis and fibrosis.

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Liver parasites of cattle slaughtered in Onitsha urban and environ, Southeast Nigeria

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Background: The rate of infection and the extent of damage of liver by parasites in cattle slaughtered in Onitsha and environ south east Nigera were investigated from October to December, 2014. The question then was which parasites were involved and was there any economic loss as a result of the parasitic infections.

Methods & Materials: The study involved postmortem inspection on the slaughtered cattle. The livers were examined by making length wise incision on the ventral side, in such a way as to open up the gall bladder and the bile duct. Macroscopic changes in the liver were observed and their economic importance noted.

Results: Out of a total of 2010 cattle examined 273(13.6%) were infected. Infection rates were 14.2, 13.6, and 13.2%, for the months of October, November and December respectively. Two types of flukes, *Fasciola gigantica*(12.0%) and *Dicrocoelium hospes*(1.1%) were identified along with hydatid cysts(0.5%). There were mixed infections of *F. gigantica* and *D. hospes* and also of *F. gigantica* and hydatid cysts. Infected liver showed thickening of the bile ducts and cirrhosis. In very heavy infections, the bile turned dark-green and more viscous than normal light green colour. The total weight of livers condemned by parasitic infection during the period was 675.7kg. Condemned liver due to *F. gigantica* was 524.5kg and that due to *D. hospes* was 133.7kg. A kilogram of liver was sold at $8, thus the total amount lost due to liver condemnation was $5,405.6.

Conclusion: The parasites found contributed to a remarkable economic loss due to liver condemnation. The nomadic management practiced by cattle rearers in Nigeria could aid infection. Very poor meat inspection facilities and uncooperative attitude of butchers were observed. Prompt chemotherapy of live animals is necessary. Restricting and feeding of the treated animals with hays before they are slaughtered is recommended.

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