Salmonella spp. remain major public health problems for the whole world. A better understanding of pathogenesis of these food-borne pathogens is a prerequisite for the design of improved intervention strategies that could reduce the use of antimicrobial agents and drug-resistant Salmonellosis.

Increasing studies suggested 1,25-dihydroxyvitaminD3 (1,25D3), the active form of vitamin D, was effective in ameliorating colitis via the lumen of the intestinal tract. Stimulation of NOD2 expression by 1,25D3-stimulated antimicrobial peptides production enhancing autophagy imply that vitamin D would boost autophagy. Therefore, we aims to investigate the effect of active vitamin D3 on the severity of Salmonella colitis.

Salmonella colitis model was conducted with 6–8 wk-old male C57BL/6 mice: Streptocmycin -pretreated C57BL/6 mice were mock infected with sterile PBS or infected orally with S. Typhimurium wild-type strain SL1344 for 48 h. Mice were randomly assigned to control, model and 1,25(OH)2D3 treated group. At the end of the experiment, mice were sacrificed; tissue samples from the intestinal tracts, spleens, and livers were removed for analysis of bacterial colonisation, Western blot for proteins expression, and RTPCR for mRNA expression.

We observed 1,25D3 reduced the severity of Salmonella colitis in C57BL/6 mice by reducing cecal mIL-1beta (79.36 ± 24.60 vs. 271.40 ± 60.88, p < 0.01), mlL-6 (206.32 ± 52.18 vs. 491.74 ± 39.44, p < 0.005) and mTNF-alpha (44.18 ± 17.24 vs. 129.93 ± 18.05, p < 0.005) mRNA expression, bacterial colonisation (CFU/mg tissue) in liver (1.02 ± 0.20´ 10 2 vs. 24.60 vs. 271.40 ± 60.88, p < 0.001) and spleen (1.50 ± 0.42´ 10 2,p < 0.01), mIL-6 (206.32 ± 52.18 vs. 44.18 ± 17.24 vs. 129.93 ± 18.05, p < 0.005) and mTNF-alpha (44.18 ± 17.24 vs. 129.93 ± 18.05, p < 0.005) mRNA expression, bacterial colonisation (CFU/mg tissue) in liver (1.02 ± 0.20´ 10 2 vs. 24.60 vs. 271.40 ± 60.88, p < 0.001) and spleen (1.50 ± 0.42´ 10 2,p < 0.01), but enhanced the autophagy expression in Western blot, comparing to SL1344 infection only.

In conclusion, active vitamin D3 could reduce Salmonella colitis by reducing inflammation and bacterial colonisation via autophagy induction.

**Background and aims** Duration of Measles in association with Helminthic infestation in the children is insufficiently studied and requires more research is.

**Methods** We investigated of biochemical and immunological markers in the children with MwH. We observed 87 children (age 3.12 ± 1.24 years) with a primary diagnosis of Measles and associated worm infestation (ascariasis and trichuriasis) on the bases of Regional Infectious Hospital, Uzhgorod, Ukraine. These biochemical and immunological parameters were compared with the dates of control group (Measles without of Helminthisis).

**Results** MwH children characterised prevalence following parameters: higher alpha -amylase (p < 0.01), glucose (p < 0.001), GGT (p < 0.001) and alkaline phosphatase (p < 0.001). Also dominated indicators of ALT (44.50 ± 8.21 U/L, p < 0.05), AST (64.92 ± 2.83 U/L, p < 0.001) and thymol (5.21 ± 0.29 IU, p < 0.001), on the basis of what we can concluded about the complications of Measles infection by reactive hepatitis. We indefacticated increase of level of IL-2 in 5.5 times to the control group (p < 0.001), IL-6 in 25-time (p < 0.001), IL-10 in 1.7 time (p < 0.001). The levels of microelements of blood serum? were lower: iodine (p < 0.001), copper (p < 0.001), zinc (p < 0.001) by our study. Phosphorus level was higher in the group of children with the Measles in association with Helminthisis (p < 0.001). The mikro elements parameters of urine were lower in the study group: iron (p < 0.001), copper (p < 0.001), zinc (p < 0.001) and iodine (p < 0.001). Level of phosphorus were increased (p < 0.001).

**Conclusions** The dates of our investigation in the children diagnosed with Measles in association with Helminthic infestation presented significant increase of inflammation markers and an imbalance of mineral metabolism.