PO-0237 THE IMMUNMODULATORY EFFECTS OF ACTIVE VITAMIN D3 ON SALMONELLA COLITIS IN MICE

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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: Streptomycin -pretreated C57BL/6 mice were mock infected with sterile PBS or infected orally with *S. Typhimurium* wild-type strain SL1344 for48 h. Mice were randomly assigned to control, model and $1,25(OH)_2D_3$ 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 CH57B/6 mice by reducing cecal mIL-1beta (79.36 ± 24.60 vs. 271.40 ± 60.88, $p < 0.01$), mIL-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 ($1.02 \pm 0.20' 10^2$ vs. $4.97 \pm 0.66' 10^2$, $p < 0.001$) and spleen ($1.50 \pm 0.42' 10^2$ vs. $45.4 \pm 3.56' 10^2$, $p < 0.0001$), but enhanced the autophagy expression in Western blot, comparing to SL1344 infection only.

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

PO-0238 BIOCHEMICAL AND IMMUNOLOGICAL MARKERS OF MEASLES WITH HELMINTHIASIS IN THE CHILDREN

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Background and aims Duration of Measles in association with Helminthiasis (MwH) 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 Helminthiasis).

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 indeficated 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 Helminthiasis ($p < 0.001$). 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.

PO-0239 A MYSTERY OF INFECTOLOGY : BRAIN ABSCESS IN A CGD PATIENT

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CGD is an immunodeficiency caused by mutations in genes encoding subunits of the NADPH oxidase complex. Normally, assembly of the NADPH oxidase complex in phagosomes of phagocytic cells leads to a "respiratory burst" essential for the clearance of microorganisms. CGD patients lack this mechanism, which results in life-threatening bacterial and fungal infections and granuloma formations. The leading cause of death are pneumonia and pulmonary abscess, septicemia and brain abscess. In neurogical manifestations various pathogens have been involved including *Aspergillus spp., S. prolificans, A. infectoria, Salmonella* and *Staphylococcus spp.* There are only some several reports on fungal brain and spinal cord infection due to *Candida spp.* To decrease mortality and morbidity from fungal infections the prophylactic use of itraconazole or voriconazole is widely recommended. A relatively new azole, posaconazole is active in pulmonary and cerebral fungal manifestations, indeed may be effective against fungi with inherent resistance to AmpB or voriconazole. In the past twenty years we have managed seven children with CGD. We present a two – year history of an X-linked CGD patient with brain abscess. In spite of our effort we were unable to identify any causative pathogen. The brain abscess did not respond to conventional antibacterial and antifungal treatment for a long time. Based on the findings and literature data we presumed the causative agent might be some kind of moulds. We suppose the use of echinocandin and posaconazole as salvage ("prophylactic") therapy. It has resulted significant regression of the brain abscess.

PO-0240 IMAGING IN CHILDREN WITH ACUTE OSTEOMYELITIS; IS CONVENTIONAL IMAGING NEEDED?

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Background and aim Timely and accurate diagnosis of children with osteomyelitis is crucial, diagnostic imaging play a major role in determine the presence of acute osteomyelitis, treatment planning and follow up. Physicians encouraged to take the advantage of all available modalities as early intervention would prevent all possible adverse outcome of late diagnosis . The aim of this study is to explore the different imaging modalities in verifying the diagnosis of paediatrics acute osteomyelitis.
Methods All cases diagnosed with Acute Osteomyelitis between January 2000 and December 2013 were retrospectively reviewed at main tertiary children hospital. Our approach included a detailed description of radiological features of paediatric patients with acute haematogenous osteomyelitis.
Results 79 cases of acute osteomyelitis were diagnosed. 68 (86.1%) of children had X-Ray within first two weeks. (51.5%) reported as normal compared to (48.5%) abnormal (Periosteal reaction- Ostelytic lesions- soft tissue swelling). Ultrasound done in 34 (43%) of children, (70.6%) reported normal vs. (29.4%) abnormal (effusion). MRI study done in 73 (92.4%) and revealed osteomyelitis in 100% of imaging.16 patients (20.3%) had Bone Scan,(12.5%) reported normal compared to (87.5%) abnormal. (100%) of children with positive bone scan had similar osteomyelitis on MRI.
Conclusion Our study confirmed that MRI is the gold standard of imaging modality which combines high sensitivity with specificity to confirm osteomyelitis in children despite having normal X-ray, Ultrasound and Bone scan. Simple X-ray might be useful to diagnose osteomyelitis if MRI is difficult to perform or if the cost plays a major role in the patient care.

PO-0241 BILATERAL BASAL GANGLIA INFARCTION IN PNEUMOCOCCAL MENINGOENCEPHALITIS IN A CHILD

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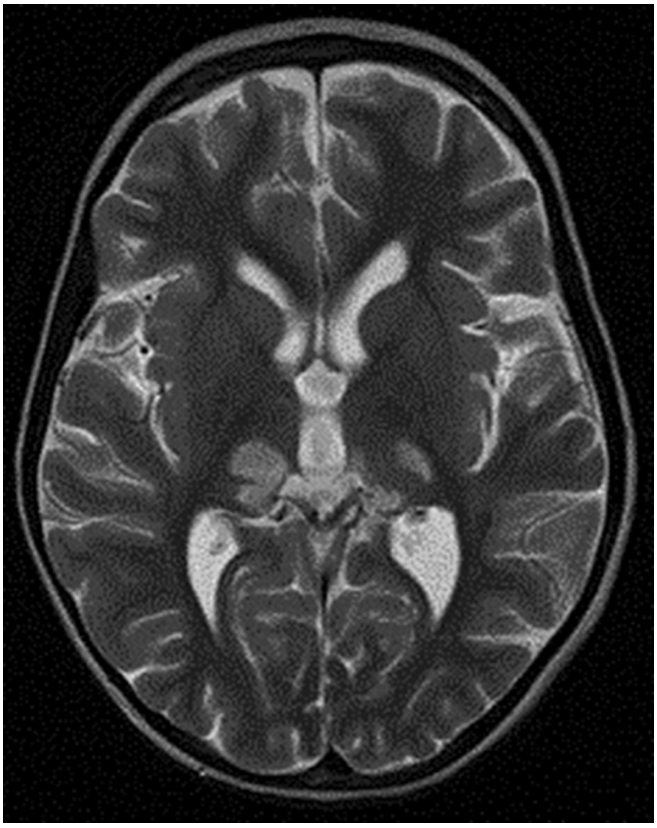
Background and aims Basal ganglia infarction is considered a complication of chronic refractory meningitis. In acute infection the basal ganglia are usually spared. Here we report an exceptional case of bilateral infarction of the basal ganglia in a child with acute *S. pneumoniae* meningoencephalitis.
Methods A 4 year old girl with a short history of fever and left sided otalgia presented with drowsiness in a referral hospital. Cerebral spinal fluid (CSF) examination showed pleocytosis (900 leucocytes/mm^3)and immediately corticosteroids, ceftriaxone and acyclovir were started. Because of a rapid decline inconsciousness she was transferred to our tertiairy PICU centre.
Results Ad admission the girl had become unresponsive and was intubated. Her pupils were mid wide and non-reacting to light. Neurologic examination showed a bipyramidal syndrome with hypertonicity of the lower extremities, brisk deep tendon reflexes and bilateral positive Babinski's. *S.pneumoniae* was cultured from CSF and blood. An MRI 4 days after admission showed bilateral sharply demarcated areas of high-signal intensity in the thalamus indicating infarction (Figure 1). In addition osteomyelitis of the tip of the petrous pyramid was observed. Her consciousness gradually improved with bilateral reactive pupils and spontaneous limb movements. Brainstem evoked response audiometry (BERA) of the left ear was negative. Gross motor deficits and impaired eye movements persisted.
Conclusion Acute pneumococcal meningoencephalitis can cause bilateral basal ganglia infarction in a child.



Abstract PO-0241 Figure 1 Magnetic resonance imaging (MRI) of the brain showing bilateral thalamic infarction

PO-0242 PREVALENCE OF CONGENITAL TOXOPLASMOSIS IN NEWBORNS IN 2 EDUCATIONAL HOSPITALS IN TEHRAN IRAN

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Background and objective Frequency and clinical manifestations of congenital toxoplasmosis in Iran is not determined, object of study was to determine the Frequency of positive serologic neonates for Toxoplasma from birth and follow up of them.
Methods In a cohort prospective study (2011–2012), Cord blood sample obtained from 270 neonates, toxoplasma serology tests (IgG, IgM) done, cases with positive toxo-IgM treated and followed
Finding Positive IgM and IgG determined 1.5%, 44.1% respectively. The most common manifestation was Eye (50%) and brain (50%).
Conclusion Early treatment of infected neonates and wide variation of toxoplasma infection in country is so important. Adding the toxoplasma serologic tests to neonatal screening test is needed and recommended.

PO-0243 PROCALCITONIN USE IN DIAGNOSIS OF PAEDIATRIC MENINGITIS

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