

was positive only in 3 (3.9%) of AF samples, but bacterial DNA was detected in 35 (46%).

The average number of PMNs was 67 and 59 in DNA negative and positive AF samples, respectively. Frequency of fever, chills, abdominal pain and tenderness was similar in both groups.

**Conclusion:** Our results indicate that, AF in almost half of NNA cases may be seeded by whole/DNA of bacteria and this condition is not associated with clinical symptoms or number of PMNs in AF.

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#### Neuroborreliosis - Is It Really Problem? Analysis of 1260 Cases with Lyme Disease

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**Background:** Manifestations of acute peripheral nervous system involvement in Lyme disease include radiculopathy, cranial neuropathy, and mononeuropathy multiplex. CNS involvement includes lymphocytic meningitis and, rarely, encephalomyelitis. Late neurologic Lyme disease may present as encephalomyelitis, peripheral neuropathy, or encephalopathy.

**Methods:** Epidemiological investigations, clinical aspects and treatment results in Hospital of Infectious Diseases in Warsaw were retrospectively analyzed.

**Results:** In years 1995–2007 1260 patients (pts) with Lyme disease were observed. Among them 50 pts had symptoms of neuroborreliosis. The group of 33/50 pts had history of tick bite and in 17/50 pts erythema migrans (EM) was recognized (12 pts were not treated). In 2 persons neurological symptoms appeared concomitantly with EM. Clinical presentation included: meningitis, cranial neuropathy, radiculopathy, peripheral neuropathy, encephalitis, encephalopathy. The specific antibodies against *B. burgdorferi* were detected in serum in 48 pts. CSF examination was performed in 47 pts. Thirty six pts had CSF abnormalities. Thirty one pts had elevated CSF protein level. In 28 pts CSF pleocytosis was found. The specific antibodies were detected in CSF in 38 pts. Ten pts (20%) with neuroborreliosis had also symptoms of Lyme arthritis in form of myalgias, arthralgias or arthritis. In five cases (10%) of neuroborreliosis depression was diagnosed. All pts were treated with antibiotics: ceftioxone, penicillin G (21–28 days). Thirty three pts (66%) recovered, but 17 pts (34%) had recurrence of neurological symptoms and received retherapy.

**Conclusions:** 1) Only 4% of pts with Lyme disease developed neuroborreliosis. 2) In 66% of pts with neuroborreliosis was not preceded by EM, what decreased probability treatment efficacy. 3) Meningitis with seventh cranial nerve palsy was the most common manifestation of neuroborreliosis. 4) Treatment was successful in all pts, but 34% needed two courses of antibiotic therapy.

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#### Hospital Acquired MRSA Pneumonia

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**Background:** Antibiotic resistance is a growing problem and particularly of concern in nosocomial infections. Nosocomial pneumonia occurs in 0.4–1.1% of hospitalized patients. It is the most common infection in intensive care units. Bacterial colonization of the upper airway followed by micro aspiration or macro inspiration into the lungs is considered the primary mechanism for development of nosocomial pneumonia. More than 90% of cases of nosocomial pneumonia are caused by bacteria, 15–30% represented with staphylococcus aureus. Following the data of a 4-year long period the resistance to methicillin was identified in ≈32% with a tendency of increasing percentage of MRSA isolates up to 35%, originated from samples taken among patients from ICU in the Clinical Center of Skopje.

**Methods:** In a one year long period 2006–2007, 7 consecutive patients were transferred to the Clinic of Infectious Diseases from the toxicology ICU. The reason of there transfer was detecting MRSA isolates from the skin - 7 patients, sputum - 4 patients, blood culture - 6 patients. Five of these patients had endotracheal or nasotracheal tubes and the symptoms of pneumonia appeared within the first four days of hospitalization.

**Results:** Presentation of nosocomial pneumonia caused by MRSA was detected through all known dominant clinical, biochemical and radiographic signs and only responded to high doses of vancomycin.

**Conclusion:** Hospital acquired (HA) MRSA infection presented by nosocomial pneumonia is a result of contaminated hospital environment. Vancomycin was the antibiotic of choice for HA-MRSA pneumonia and there was no MRSA isolate that shows vancomycin resistance.

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#### Interleukin-18 Gene Polymorphisms Are Associated with Brucellosis in Iranian Patients

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**Background:** Interleukin-18 (IL-18) is a pleiotropic cytokine that is involved in regulation of both the innate and acquired immune response. The most prominent biological property of IL-18 is its ability to induce the production of IFN- $\gamma$  in presence of IL-12. Moreover, it stimulates the expression of TNF- $\alpha$  and IL-1, enhances the differentiation of T cells to the Th1 and impairs the synthesis of the anti-inflammatory cytokine IL-10. Then it seems that IL-18 has a crucial role in immunity against *Brucella* infection. Since the expression of IL-18 can be affected by polymorphisms in its gene, we decided to investigate any probable rela-