МІНІСТЕРСТВО ОСВІТИ ТА НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
МЕДИЧНИЙ ІНСТИТУТ

# ПЕРСПЕКТИВИ РОЗВИТКУ МЕДИЧНОЇ НАУКИ І ОСВІТИ

ЗБІРНИК ТЕЗ ДОПОВІДЕЙ
ВСЕУКРАЇНСЬКОЇ НАУКОВО-МЕТОДИЧНОЇ КОНФЕРЕНЦІЇ,
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Серед пацієнтів, що мали невиражений ступінь фіброзу (F0, F1, F2) вищою була кількість пацієнтів, які мали підвищення АМА в динаміці, ніж при вираженому фіброзі (F3, F4). Порівнявши дві результативні групи (з підвищенням АМА в динаміці та з незмінними АМА), було встановлено, що при підвищенні ступеню фіброзу збільшується відсоток осіб, у яких не відбувалось підвищення АМА (пацієнти з перехідними значеннями становлять виняток, за рахунок незначної кількості осіб в цих групах) ($p < 0,01$)

При зростанні вірусного навантаження, кількість хворих у першій групі зростала ($1\times10^4$ МО/мл – на 2 %; $1\times10^5$ МО/мл - на 3 %; $1\times10^7$ МО/мл – лише з підвищеними АМА), по відношенню до хворих з другої групи ($p < 0,05$).

**Висновок.** Таким чином, було встановлено достовірну прямопропорційну залежність між підвищенням АМА і ступенем активності, рівнем вірусного навантаження та обернено пропорційну залежність між підвищеними АМА і ступенем фіброзу печінки.

## EPIDEMIOLOGICAL ANALYSIS OF HERPESVIRAL LESIONS OF THE NERVOUS SYSTEM

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Primary herpesvirus infection usually occurs during childhood and may cause several benign self-limited clinical manifestations, followed by a life-long persistence in a latent state with possible reactivation in case of immunodeficiency. Serious health problems, including CNS lesions can occur as a result of HVs reactivation. Herpesvirus encephalitis (HVE) accounts for up to 40% of all viral encephalitis, and are major causes of mortality and long-term neurological sequelae throughout the world even when using antiviral drugs. Since surveillance and recording of herpesvirus infections (HVI) are not common practice, it is difficult to establish exact figures for the prevalence of both HVI and HVE. Despite being an important public health problem, very few population-based studies have been carried out so far in the world and none in Ukraine. We present the clinical and etiological data obtained in prospective single center population study with 107 enrolled adult patients in Ukraine.

**The aim** of this study was to better define the clinical profiles and etiologic priorities of HVE in Ukraine through a prospective hospital-based study from January 2014 to January 2015. Patients are admitted to department of neuroinfections if they have clinical evidence of a CNS infection: fever >38 °C, or febrile episode reported within the previous month; cerebrospinal fluid (CSF) abnormalities (>four white blood cells per $mm^3$ or CSF proteins >0.4 g/L); at least one of the neurological signs (confusion, altered mental status, seizures,focal deficiency).

Preadmission illnesses lasted a median of 52 days, range 11 to 188. Clinical profiles observed among the patients with herpesvirus in CSF are characterized by extreme diversity and a combination of several CNS symptoms and syndromes. Overall, headache 93 (86.9 %) and cochlea-vestibular impairments 88 (82.2 %) were the most commonly recorded symptoms. Vegetative dysfunction 45 (42 %), fever 9 (8.4 %), sleep disorders 8 (7.5 %), mental confusion 13 (12.1 %), pyramidal insufficiencies 38 (35.5 %), convulsions 32 (29.9 %), scattered neurological symptoms 29 (27.1 %), pelvic disorders 6 (5.6 %), reduced hearing 6 (5.6 %) were reported less frequently. A minority of patients had neurological signs e.g. nerve palsies/paresis8 (7.4 %). The majority of patients 103 (96.2 %) had lumbar punctures (LPs) done either on admission (n=88, 82.2 %) or by the next day. White cell count (WCC) in 71% of CSF samples was < 10 cells/$mm^3$. In the remaining samples, moderate cytosis was observed. Lymphocyte prevailed. The protein content of CSF was normal in 89 (83.2 %) patients, and slightly increased (up to 0.99 g / l) in 18 patients.

The genome of HVs was detected in CSF samples obtained from all patients as follows: Herpes simplex virus 1 and 2– 13 (12.1 %), Varicella zoster virus– 2 (1.8), Cytomegalovirus– 14 (13 %), Epstein Barr virus– 22 (20.5 %), Human herpesvirus6– 5 (4.7 %), Human herpesvirus7– 13 (12.1 %). Co-infection (≥ 2 HVs) was observed in 38 patients (35.5 %). CSF of 27 patients contained two viral DNA, and 11 – three one in various combination. Human herpesvirus 8 was not found. An important diagnostic and prognostic value has also neurovascular changes in the structure of the brain (Table 2, Figs.1-4). As can be seen from the table focal changes in the brain are observed more often - in 61 (57 %) cases against 35 (32.7 %) for diffuse disorders. In 11 patients (10.3 %) no changes in MRI were detected. Taking into account the localization of CNS lesions, the following clinical diagnoses were established: arachnoencephalitis, encephalitis, and meningoencephalitis – 46 (43 %), arachnoiditis – 34 (31.8 %), disseminated encephalomyelitis – 16 (15 %). Patients with approved neurological symptoms received Acyclovir, which was administered intravenous daily during 2-3 weeks to all patients with HSV-1/2 and VZV infections), or Ganciclovir to patients with EBV, CMV, HHV-6, and HHV-7 infections.Interferon α2b for 2 weeks, or human immunoglobulin intravenous and managed supportively with ademetionine, and citicoline both intravenous daily. The mean duration of hospital stay was 19.7 ± 15.3 days (range: 7-69). As a result of treatment, 55 patients had a good outcome and after discharge they returned home. The condition of 49 patients improved significantly (a decrease of some neurologic symptoms, but with preservation of some manifestations of cerebrosthenic, vestibulo-atactic syndromes, pyramidal insufficiency). These patients were transferred to a convalescence facility.

**Conclusion:** It was the first epidemiological surveillance of herpes encephalitis in Ukraine. The findings contribute to understand the epidemiology of encephalitis and the clinical management of patients. Furthermore, this study described the main clinical manifestations of the disease, its evolution, and the use of antiviral agents in the adult population.