



EXANTHEMA ASSOCIATED WITH THE WEST NILE VIRUS INFECTION (CASE PRESENTATION)

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Abstract. The West Nile virus infection (WN) was identified in Romania through the acute meningitis and encephalitis epidemic in 1996 associated with an unusually high rate of mortality and sequel rate. The forms of WN infection without connected brain damage remain unidentified in the absence of the acute phase serology (IgM WNV) given the fact that 80% of the WN infections progress asymptotically, 20 % as feverish syndromes and less than 1 % may present CNS disease. An aspect novel to the field literature is the association of the WN infection with a maculopapular exanthema in non-feverish conditions, aspect which we would like to present as follows.

The studied case may testify to WN virus circulation within the Romanian boundaries up to date, 2008, having a display of clinical forms which have as main characteristics not the neurological signs but rather hypothermia and inter-infectious exanthema.

Although uncommon, the maculopapular eruption accompanied or not by pruritus and cutaneous hyperesthesia, may suggest, under certain environmental conditions (hot season with mosquito readership in the area) serological investigation for the WN infection.

Keywords: West-Nile, exanthema

Introduction

The West Nile virus infection (WN) was identified in Romania through the acute meningitis and encephalitis epidemic in 1996 associated with an unusually high rate of mortality and sequel rate (10%), which could be explained by the immune-depressed array the age extremes and the virulence of the virus body in circulation. The forms of WN infection without connected brain damage remain unidentified in the absence of the acute phase serology (IgM WNV) given the fact that 80% of the

WN infections progress asymptotically, 20% as feverish syndromes and less than 1% may present CNS disease. The feverish acute infections associate myalgia and joint pain, headaches and retro-orbital pain, inconstant hepatomegaly and splenomegaly, whereas in 20-25% of the cases a maculopapular or measles-like exanthema could be witnessed, more frequent in children. An aspect never seen in the field literature is the association of the WN infection with a maculopapular exanthema in non-feverish conditions, aspect which we would like to present as follows.

Case presentation

Female patient G.M. (31), living in a village in Sibiu county, is committed to the Clinic of Infectious Diseases in Sibiu in August 2008, 10 days

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after experiencing intense headaches, abundant sweating, muscular pain, nausea, food and bile vomit, watery diarrhea, followed by a generalized, non-itchy skin eruption. Objective data on arrival: hypothermia 35°C, general condition slightly altered, moderate conjunctive hyperemia, erythematic maculopapular-type skin eruption on thorax and abdomen (See figures 1 and 2) as well as on the superior and inferior members, a hyper-pigmented crusty sub-umbilical area of 0.5-0.7 cm (possibly consequent to an insect bite ?), cutaneous hyperesthesia, normal conjunctive-adipose tissue, unaltered pulmonary sonority, VM slightly hoarsened, no ronchi, rhythmic heartbeat, VA 76 b/minute, AT=115/70 mmHg, loose abdomen becoming sensitive to epigastria palpation, liver at 1 cm under the costal margin, elastic consistency, untouchable spleen and no meningitis syndrome.

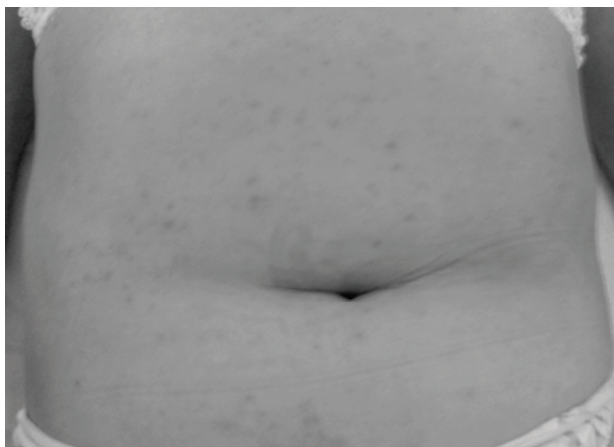


Figure 1. Eruption on the abdomen



Figure 2. Eruption on the hips

Among the **preclinical examinations** we could mention: L 4300/mm³, Er 4.91mil/mm³,

Hb 13.5g/dl, Ht 42.0%, MCV 85.5fl, MCH 27.5 pg, MCHC 32.1 g/dl, Tr 207000/mm³, Ne 57.7%, Ly 31.9%, glycemia 101mg/dl, urea 16mg/dl, creat 0.6mg/dl, VSH 12mm/h, fibrinogen 177mg/dl, PCR 1.5 mg/l, TGO 25U/l, TGP 13U/l, amilaze 48U/l.

The serology for WN confirms a dynamic increase of IgM antibodies from 4.32 (serum 1) to 6.54 (serum 2) (cut-off for IgM 1.1) and respectively IgG negative in serum 1, positive in serum 2 – index 2.72 (cut-off for IgG 1.5). Pulmonary X-rays: heart and aorta within normal limits, bilateral emphasized pulmonary interstice around and under hilus.

The evolution was favorable, initially through disappearance of all digestive manifestations, then of the neurological ones and of the skin eruptions after seven days.

Discussions

The case presented above may testify to WN virus circulation within the Romanian boundaries this year, having a display of clinical forms which have as main characteristics not the neurological signs but rather hypothermia and inter-infectious exanthema.

Approximately two weeks after patient GM had been diagnosed with WN infection, another patient was committed to our clinic: FM, male from Sibiu, feverish, had a similar maculopapular exanthema, headache with no signs of clinical meningeal irritation, rhabdomyolysis syndrome, hepatocytolysis, wherein the dynamics of the serological examinations emphasized the WN seroconversion (diagnosis backed by AFI and IAH).

The cases presented above are even highly significant if regarded in a wider general context, considering that authors from Hungary have recently revealed an increase in the number of WN neuro-infections in the neighboring country in 2008. If between 2003-2007 six cases of WN neuro-infections were diagnosed, there were 14 WN cases during the months of August and September.

None of our patients has traveled in the last three weeks; they hadn't received any blood transfusion or had any of their organs transplanted. They hadn't been vaccinated either against other viruses in the Flaviviridae group. On the other hand, both patients admit having been bitten by insects (mosquitoes) in the last weeks.

The clinical evolution did not require performing lumbar puncture in any of these cases, but we do not completely rule out minimal alterations of the CSF, in the absence of such examination.

Conclusions

Although uncommon, the maculopapular eruption accompanied or not by pruritus and *cutaneous hyperesthesia*, may suggest, under certain environmental conditions (hot season with mosquito readership in the area) serological investigation for the WN infection.

When taking into account the regional aspects, the surveillance of WN infection for 2009 is deemed necessary, also extended to other counties to the west and center of the country, a realistic picture on the readership only being possible via serology ascertaining, not just for patients with encephalitis, acute meningitis with clear CSF, but also for feverish syndromes spawned during August-September, accompanied by rhabdomyolysis, hepatosplenomegaly, maculopapular exanthema, especially when patients admit to mosquito bites.

The individuality of the case is conferred by the presence of a maculopapular eruption in non-feverish conditions, in a geographical area considered to be out of the risk of the West Nile virus influence.

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