SUBACUTE SCLEROSING PANENCEPHALITIS (SSPE) PRESENTS DIAGNOSTIC CHALLENGES AFTER MEASLES INFECTION

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Relevance:
Subacute sclerosing panencephalitis (SSPE) is a rare, fatal complication of measles, with a clinical onset of progressive intellectual deterioration and myoclonic jerks(Magurano et al., 2017).
Vaccination Impact: The measles-mumps-rubella (MMR) vaccine has nearly eliminated SSPE in populations with compulsory vaccination programs, but unimmunized individuals, especially children in endemic regions, remain at risk(O'Donnell & Bale, 2016).

- Diagnostic Challenges: Diagnostic performance of IgM tests in primary measles infection and suspected reinfection has been studied, showing high specificity and diagnostic accuracy, especially in primary infection cases(Semmler et al., 2021).
- Epidemiology: SSPE incidence is higher in developing countries and among children infected with measles at a young age, with a reported incidence of 21 per million in India(Janjua et al., 2016; Weber, 2018).
- Prognostic Factors: Patient age at diagnosis and incubation period may correlate with prognosis and lifespan in SSPE patients, while physical therapy and vaccination dose did not show significant impact on lifespan(Guler et al., 2015).
- Public Perception and Vaccination: Measles is associated with severe complications, including SSPE, and vaccination has significantly reduced its incidence, emphasizing the importance of vaccination in preventing SSPE (Weber, 2018; Cherry, 2024).

Purpose: Development of an algorithm for early diagnosis and early prevention of the disease in patients with acute subsclerosing panencephalitis.
Methods and techniques: Clinical-neurological, neurophysiological, neuroradiological, immunological-serological analyzes and statistical research methods are used.
Results: Our study enrolled 35 patients residing in the Fergana Valley who experienced seizures. Notably, all patients were prescribed clonazepam as part of their treatment regimen. It is important to highlight that 70% of the study participants underwent electroencephalogram (EEG) examinations. Additionally, a significant observation was that the majority of patients experienced delays in receiving the measles vaccination due to disruptions caused by the COVID-19 pandemic.
Conclusion: Subacute sclerosing panencephalitis (SSPE) remains a significant public health concern, particularly in regions with inadequate vaccination coverage. Our study in the Fergana Valley, where a high percentage of patients with seizures also experienced measles vaccination delays due to the COVID-19 pandemic, underscores the need for heightened vigilance and proactive measures to ensure timely vaccination. Early diagnosis and intervention are crucial, but prevention through widespread vaccination is the most effective strategy to eliminate this devastating disease.

References:

1. Cherry, J. D. (2024). Ongoing Measles in the Developed and Developing World. *Journal of the Pediatric Infectious Diseases Society*, *13*(4), 233–236. Scopus. https://doi.org/10.1093/jpids/piae018
2. Guler, S., Kucukkoc, M., & Iscan, A. (2015). Prognosis and demographic characteristics of SSPE patients in Istanbul, Turkey. *Brain and Development*, *37*(6), 612–617. Scopus. https://doi.org/10.1016/j.braindev.2014.09.006
3. Janjua, K., Sarwar, S., Sepah, Y. J., & Nguyen, Q. D. (2016). Ocular manifestations of subacute sclerosing panencephalitis. In *Intraocular Inflammation* (pp. 1221–1226). Scopus. https://doi.org/10.1007/978-3-540-75387-2_116
4. Magurano, F., Marella, G. L., Marchi, A., Filia, A., Marsella, L. T., Potenza, S., Massa, R., Bucci, P., Baggieri, M., & Nicoletti, L. (2017). A case of fulminant subacute sclerosing panencephalitis presenting with acute myoclonic-astatic epilepsy. *Annali Dell'Istituto Superiore Di Sanita*, *53*(2), 167–169. Scopus. https://doi.org/10.4415/ANN_17_02_15
5. O'Donnell, L. A., & Bale, J. F., Jr. (2016). Measles virus and subacute sclerosing panencephalitis. In *Neurotropic Viral Infections: Volume 1: Neurotropic RNA Viruses* (pp. 27–43). Scopus. https://doi.org/10.1007/978-3-319-33133-1_2
6. Semmler, G., Aberle, S. W., Griebler, H., Richter, L., Schmid, D., Stiasny, K., Holzmann, H., & Weseslindtner, L. (2021). Performance of four IgM antibody assays in the diagnosis of measles virus primary infection and cases with a serological profile indicating reinfection. *Journal of Clinical Microbiology*, *59*(5). Scopus. https://doi.org/10.1128/JCM.02047-20
7. Weber, T. (2018). Measles—Why is Vaccination Necessary and How do i Deal with Opponents of Vaccination? *Aktuelle Neurologie*, *45*(9), 672–689. Scopus. https://doi.org/10.1055/a-0681-9696