Influenza virus can cause common respiratory tract infections and rarely multiorgan system disorders, resulting in mild infection, severe respiratory disease or systemic disease and complications. CNS dysfunction, an important complication of influenza infection includes IAE, a rapid progressive encephalopathy that usually presents in the early phase of influenza infection. Because of lack of inflammation in the CNS, IAE is always named influenza-associated acute encephalopathy, which includes acute necrotizing encephalopathy (ANE), presenting with fulminant encephalopathy and characteristic brain lesions following viral infection, which pathogenesis is not fully understood, but associated with unfavourable outcome.

We present four new cases of central nervous system dysfunction subsequent to infection with Influenza Virus. All four cases had convincing evidence of preceding Influenza disease with no evidence of viable Influenza Virus in the cerebrospinal fluid. We propose that these cases represent examples of post Influenza central nervous system dysfunction. We also present a review of the literature regarding Influenza neurologic dysfunction and speculate on the underlying pathologic mechanisms.

**Background** Rubella encephalitis is a rare complication of rubella with an incidence that has been reported to range from 1/4300 to 1/24000.

**Methods** We report four pediatric cases of acute encephalitis complicating rubella during an epidemic of rubella between March 2011 and November 2011 to the Fattouma Bourguiba Hospital.

**Results** Three males and one female were included. The mean age was 9 years (7–12 years), rubella vaccine have been given only for 2.2 years, 3.09 years, +2.2 years, +3.09 years.

**Conclusion** In Tunisia a revision of our vaccination program against rubella is needed. Benefits and the costs of a non-selective vaccination strategy including all children and all women of childbearing age must be weighted to prevent such a severe complication.