

Oseltamivir for Hand, Foot and Mouth Disease

A 2½-year-old boy presented to us with high grade fever and cough for a day. There was no rash or any other obvious focus of infection. A diagnosis of viral fever was considered. As there was recent contact with a H1N1 influenza patient in the family, a possibility of H1N1 infection was considered in this young child and oseltamivir was administered at a dose of 30 mg twice daily for 5 days. Though there was infrequent cough, the fever abruptly abated 48 hours after initiation of oseltamivir. On the fourth day of illness, skin lesions typical of Hand, foot and mouth disease (HFMD) were noted over limbs, palms and soles. However, the lesions healed quickly and desquamated in 2 days. This child probably acquired HFMD from other children in his playschool. Incidentally, the oseltamivir he received for possible H1N1 infection resulted in earlier cessation of fever and resolution of skin lesions. Though HFMD is usually self-limiting, fever and skin lesions for one or two weeks may be distressing for both children and their parents. If a safe antiviral drug can shorten the duration and intensity of the illness, it may become a treatment option. However, this clinical observation is very

preliminary and proper research evidence is needed to document any such benefit.

Oseltamivir phosphate is an oral prodrug which undergoes hydrolysis by hepatic esterases to form active oseltamivir carboxylate which acts by selective inhibition of influenza A and B viral neuraminidase. A lipophilic side chain of the active drug binds to the virus enzyme, blocking its ability to cleave sialic acid residues on the surface of the infected cell resulting in an inability to release progeny virions [1]. Usage of sialic acid is a common feature of at least three different viruses with pandemic potential: Coxsackie Virus A24, Enterovirus 70, and influenza A virus [2]. This sialic acid link could be a common pathway by which oseltamivir helps in HFMD.

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Immunization Issues in Children Undergoing Liver Transplantation

Liver transplantation is established therapy for children with decompensated chronic liver disease (CLD), and in subsets of patients with acute liver failure and metabolic liver disease. [1]. Children require lifelong immunosuppression which can predispose them to infections. The rates of immunization in pre-transplant candidates are low throughout the world. [2]. This problem gets compounded in a large country like India where the national average of children immunized under the Universal immunization program is 46% [3].

About two-thirds of all candidates referred to us for liver transplantation are partially immunized. As children with CLD cannot be transplanted for 3-4 weeks after a live vaccine is administered, it is important that early vaccination against varicella, measles, mumps and rubella, is ensured for all children who are listed for liver

transplantation. Vaccination against pneumococcal disease, influenza and hepatitis A should similarly be brought forward to complete the vaccination schedule [4].

The disease burden in the post-transplant period can be reduced significantly by expediting the vaccination schedule in the pre-transplant period, and by offering immunization to household contacts. While every effort should be made to vaccinate prior to transplantation, inactivated vaccines are safe after transplantation. Live attenuated vaccines are generally contraindicated after transplantation. It is preferred that close contacts be vaccinated against measles, mumps, rubella and varicella, 4 weeks before the transplant so as to prevent the transplanted patient from having contact with wild-type viruses.

The ability to mount an immune response is impacted by the type and dose of immunosuppression [5] The effect of immunosuppression on memory T cells is incompletely understood and the life span of memory T