

To Whom It May Concern:

I am writing regarding my patient XXX at the request of their insurance company to provide additional information for ongoing coverage of intravenous immunoglobulin (IVIg). XXX has opsoclonus-myoclonus-ataxia syndrome (OMS). This is a rare, autoimmune neurological disorder caused by an autoimmune attack on the cerebellum. It results in severe symptoms of spontaneous, abnormal, chaotic eye movements (opsoclonus), spontaneous random limb jerking (myoclonus), and incoordination (ataxia). There are also cognitive and behavioral symptoms, including speech and language problems and aggression.

[DESCRIBE PATIENT'S PARTICULAR CASE]

All providers who care for children with OMS use IVIg as a treatment option. A large case series from UCLA (Mitchell et al. Pediatrics 2002; 109:86-98) suggested that IVIg is beneficial in OMS. An expert panel of neurologists and hematologists (Feasby et al. Transfusion Medicine Reviews 2007; 21S1: S57-S107) has also concluded that IVIg should be considered as a treatment option in patients with OMS given the basic science evidence implicating autoimmune mechanisms (and autoantibodies in particular), evidence of benefit in some patients, and the severity of the disorder. The benefit of IVIg in OMS is also supported by results of a randomized clinical trial from the Children's Oncology Group, with initial results presented at the 2014 Advances in Neuroblastoma Research meeting which are pasted below and can be accessed at the following website:

[http://www.anrmeeting.org/dl/ANR2014/ANR\\_2014\\_Information\\_Book\\_2014-05-08.pdf](http://www.anrmeeting.org/dl/ANR2014/ANR_2014_Information_Book_2014-05-08.pdf)

Thus, based on the documented role of autoantibodies in OMS, the reported benefit of IVIg in patients with OMS, and the potentially severe nature of inadequately treated OMS including severe, permanent neurological sequelae, I request coverage for IVIg.

[DESCRIBE OWN EXPERIENCE IN OMS]

Thank you for your prompt attention to this matter. If you have any questions, please call me at XXX.

Sincerely,

A Randomized Clinical Trial of Cyclophosphamide and Prednisone with or without Intravenous Immunoglobulin (IVIG) for the Treatment of Neuroblastoma Associated Opsoclonus Myoclonus Ataxia Syndrome (OMA): A Children's Oncology Group Trial

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Background: To determine if cyclophosphamide and prednisone (CP) is an effective treatment of OMA and if the addition of IVIG improves the response to cyclophosphamide and prednisone. , Background: OMA, an immunologically mediated paraneoplastic syndrome, affects 2-3% of children with neuroblastoma. Most children have low-stage neuroblastoma and survive their tumor but are handicapped by neurological sequelae. Steroid immunosuppression has been the established treatment for this disorder with other immunosuppressants reported as effective in case reports or case series. We report here preliminary data on the only randomized clinical trial for this disorder.

Methods: Children age  $\leq 8$  years, newly diagnosed with neuroblastoma associated OMA, were randomized to receive six monthly treatments of IVIG (1 gm/kg) with CP (Rx1) or six monthly treatments of CP alone (Rx2). Children with intermediate or high risk neuroblastoma that required chemotherapy for their tumor received stage-specific chemotherapy instead of cyclophosphamide. The best overall OMA response was selected from evaluations at 2 months, six months and one year using a standardized OMA response scale evaluating stance, gait, arm and leg function, opsoclonus, and mood/behavior. Patients who crossed over from Rx2 to Rx1 were considered OMA non-responders.

Results: 53 eligible subjects were enrolled, 26 on Rx1 and 27 on Rx2. Thirty-three of 52 evaluable patients responded to therapy, 21 on Rx1 (81%) and 12 on Rx2 (46%)( $p=0.0096$ ). Eleven patients in Rx2 crossed over to Rx1 and were automatically considered non-responders. Eighteen subjects had an OMA relapse requiring further treatment. One subject died of infection after high-dose chemotherapy and autologous stem cell rescue for high risk neuroblastoma. The 3-year disease (OMA) free survival is  $60.9 \pm 7.9\%$ .

Conclusion: The addition of IVIG to CP significantly improved the short-term response over CP alone Follow up is ongoing to determine the long-term disease (OMA) free survival rate and the long-term neurological outcome of OMA.