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REFERENCES

1. National Nutrition Monitoring Bureau. Diet and Nutritional Status of Rural Population, Prevalence of Hypertension and Diabetes Among Adults and Infant and Young Child Feeding Practices-Report of Third Repeat Survey- Technical report number 26;2012.
2. International Institute for Population Sciences. National Family Health Survey (NFHS-3): India. Mumbai: IIPS; 2005-2006. Available from: *http://rchiips.org/NFHS/maharashtra_report.shtml*. Accessed July 03, 2017.
3. International Institute for Population Sciences. National Family Health Survey (NFHS-4): India. Mumbai: IIPS; 2015-2016. Available from: *http://rchiips.org/NFHS/factsheet_NFHS-4.shtml*. Accessed July 03, 2017.
4. Mazumder S, Taneja S, Bhatia K, Yoshida S, Kaur J, Dube B, *et al*. Efficacy of early neonatal supplementation with vitamin A to reduce mortality in infancy in Haryana, India (Neovita): a randomised, double-blind, placebo-controlled trial.Lancet. 2015;385:1333-42.
5. Mason J, Greiner T, Shrimpton R, Sanders D, Yukich J. Vitamin A policies need rethinking. Int J Epidemiol. 2015;44:283-92.

Cotrimoxazole-induced Methemoglobinemia

Pneumocystis jiroveci pneumonia (PCP) occurs in patients who receive immunosuppressive agents such as chemotherapeutics and prolonged steroids. Cotrimoxazole or trimethoprim-sulphamethoxazole (TMP-SMX) is the first line agent for PCP prevention, and is well tolerated at prophylactic doses. Methemoglobinemia secondary to the administration of trimethoprim-sulfamethoxazole has been reported mainly in patients who receive daily administration of the drug in therapeutic doses (4 times the prophylactic dose) [1]. We report a case of methemoglobinemia observed while on prophylactic dose of TMP-SMX.

A 6-year-old boy was admitted for rituximab infusion as treatment for refractory chronic immune thrombocytopenia (ITP). He was diagnosed to have immune thrombocytopenia three years ago, and has been on treatment with multiple courses of steroids, azathioprine, cyclosporine, eltrombopag and dapsone to which thrombocytopenia remained refractory. At the time of initiation of weekly rituximab, he was on dapsone (2 mg/kg/day) and cyclosporine (3 mg/kg/day), and platelet count was maintained around 5-10 × 10^9/L with occasional episodes of epistaxis and gum bleeding. Normal G6PD level was ensured prior to starting dapsone. He was hemodynamically stable with normal oxygen saturation (SpO_2) in room air during the first dose of rituximab. In view of having received prolonged courses of steroids, he was started on PCP prophylaxis with TMP/SMX (5 mg/kg/day of trimethoprim) thrice a week. During second week of admission, while monitoring for rituximab infusion, his SpO_2 was found to be 88% in room air. Child was comfortable with normal respiratory rate and had no cough, running nose, dyspnea, exertional intolerance, dark colored urine or cyanosis, and systemic examination was unremarkable. The possibility of methemoglobinemia as well as viral interstitial lung disease was considered; arterial blood gas analysis showed methemoglobin level of 14.9% (normal <2%) and arterial oxygen saturation (PaO_2) of 90 mmHg. Dapsone and TMP/SMX were stopped, and he was followed up clinically with SpO_2 monitoring once in 3-4 days. Hemoglobin remained constant at 11 g/dL and there was no evidence of hemolysis. Repeat methemoglobin level after two weeks was 0.3% with PaO_2 of 109 mmHg.

Methemoglobinemia following prophylactic doses of TMP/SMX is extremely rare [1,2]. Although dapsone is a well-known cause of methemoglobinemia, it did not cause any symptoms in our patient for over 6 months. The other drugs being administered (cyclosporine and rituximab) are not known causes of methemoglobinemia in usual doses. The addition of cotrimoxazole might have caused a 'dose-effect' with dapsone resulting in methemoglobinemia. Methemoglobinemia following combination of dapsone with TMP/SMX combination has been reported in HIV patients receiving these drugs in therapeutic dosage for PCP [3]. Since TMP/SMX is used very commonly in pediatric oncology and immunodeficiencies, the early recognition of this complication by SPO_2 monitoring may be warranted.

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REFERENCES

1. Carroll TG, Carroll MG. Methemoglobinemia in a pediatric oncology patient receiving sulphamethoxazole/trimethoprim prophylaxis. Am J Case Rep. 2016;17: 499-502.
2. Kawasumi H, Tanaka E, Hoshi D, Kawaguchi Y, Yamanaka H. Methemoglobinemia induced by trimethoprim-sulfamethoxazole in a patient with systemic lupusery-thematosus. Intern Med. 2013,52:1741-3.
3. Medina I, Mills J, Leoung G, Hopewell PC, Lee B, Modin G, *et al*. Oral therapy for pneumocystis carinii pneumonia in the acquired immunodeficiency syndrome. A controlled trial of trimethoprim-sulfamethoxazole *versus* trimethoprim- dapsone. N Engl J Med. 1990;323:776-82.

Autistic Regression: Should it Prompt Urgent EEG?

Autistic spectrum disorders (ASD) are being increasingly recognized in children. The exact cause of this condition is not clear and the work up is usually negative, thereby causing frustration in parents and treating physicians equally [1]. Treatment usually consists of speech therapy, occupational therapy and behavior modification. As it is usually a permanent condition, any intervention that changes the course of the disease is of immense importance. There is little role for pharmacotherapy except use of drugs like risperidone and stimulants [1].

There are broadly two groups in ASDs; one where children have features of autism since birth and in the other group (about one-third) babies are normal for the initial 9-18 months with some even using some meaningful words and having good interaction to later on lose language milestones and become socially withdrawn. The latter group is referred to as autistic regression [2]. An immune-mediated pathophysiology has been proposed, which is supported by indirect evidence of increased prevalence of autoimmune disorders in families of children with autistic regression as compared to healthy controls [1-3]. This subgroup of ASD when investigated early in the course of the disease sometimes shows epileptic abnormalities on EEG in the form of recurrent generalized spikes and sharp waves in the absence of clinical seizures. Use of antiepileptic drugs and immunomodulation in the form of pulse methylprednisolone followed by oral steroids or intravenous immunoglobulin may theoretically reverse the epileptiform EEG, thereby resulting in complete or partial reversal of autistic regression. The role of EEG in ASDs is not very clear in the literature, though children with ASDs have higher prevalence of epileptiform abnormalities on EEG [4]. Guidelines recommend EEG in children with ASD when they have clinical seizures.

We recently saw two toddlers who presented to us with reduced interaction, decreased response to being called, hand stereotypies and loss of use of few word they had attained. They did not have any clinical seizures. EEG showed recurrent generalized epileptiform discharges prompting us to give a trial of pulse methylprednisolone followed by oral steroids along with levetiracetam and speech therapy. This intervention resulted in improved eye contact, improved comprehension of oral commands and reduction in hand stereotypies within a month. The EEG also showed normalization. These two cases underscore the need to sensitize pediatricians to identity these children early in the regression phase. We feel that a prompt EEG and consideration of immunomodulation along with other intervention, can go a long way in changing the developmental trajectory of these children. Prospective studies with clear protocols are required to confirm this finding. This condition is different from the well-described Landau Kleffner syndrome, which is seen in slightly older age group and the EEG findings there are slightly different [5].

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REFERENCES

1. Al Backer NB. Developmental regression in autism spectrum disorder. Sudan J Paediatr. 2015;15:21-6.
2. Wu S, Ding Y, Wu F, Li R, Xie G, Hou J, *et al*. Family history of autoimmune diseases is associated with an increased risk of autism in children: A systematic review and meta-analysis. Neurosci Biobehav Rev. 2015;55: 322-32.
3. Barger BD, Campbell JM, McDonough JD. Prevalence and onset of regression within autism spectrum disorders: a meta-analytic review. J Autism Dev Disord. 2013;43: 817-28.
4. Trevathan E. Seizures and epilepsy among children with language regression and autistic spectrum disorders. J Child Neurol. 2004;19 Suppl 1:S49-57.
5. Stefanatos G. Changing perspectives on Landau-Kleffner syndrome. Clin Neuropsychol. 2011;25:963-88.