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Powder topical Rifampicin on reducing infections after Neural Tube Defect (NTD) surgery in infants

Nihat Demir, Erdal Peker, Ismail GülSen, Selami Kocaman, Oguz Tuncer and Ercan Kırımı

Wayne State University, USA

Yuzuncu Yil University, Turkey

The correct timing and technique of neural tube defect (NTD) repairs significantly decreases the morbidity and mortality of NTD cases. However, infections related to the surgery are still common. We investigated the effects of topical rifampicin (RIF) combined with routine prophylaxis in newborns with open NTD. Eighty-six (86) patients who had undergone NTD surgery were included in the retrospective study. Thirty (30) patients who started on topical RIF before surgery made up the study group, and 56 cases that were not administered topical RIF made up the control group. Surgical site infections (SSIs) and meningitis/ventriculoperitoneal (VP) shunt infections that developed within 6 months after the surgical intervention were evaluated. In the post-operative period, meningitis/VP shunt infections were observed in 6.7% and SSI in 3.3% of the experimental group treated with topical RIF, while meningitis/VP shunt infections were observed in 37.5% and SSIs in 21.4% of the control group. External ventricular drainage and not using topical RIF were identified as important risk factors for meningitis/VP shunt infections [RR 19,28 (3,53-105,33), $p=0.001$; RR 18,10 (2,38-137,68), $p=0.005$, respectively]. A flap transposition, cerebrospinal fluid (CSF) leaks and not using a topical RIF were identified as relative risk factors for SSIs [RR 22,21 (4,81-102,47), $p<0.001$; RR 13,04 (1,22-139,33), $p=0.034$; RR 7,09 (1,12-53,99), $p=0.042$, respectively]. We did not observe any local or systemic side effects due to the use of RIF. The use of topical RIF is an easy and effective method for reducing SSIs and meningitis/VP shunt infections related to NTD surgery.

demirihat27@hotmail.com

Pediatric multiple sclerosis presenting as area postrema syndrome

Sara Vila Bedmar^{1,2}

University Hospital 12 de Octubre, Spain

Complutense University, Spain

Introduction: The term “area postrema syndrome” refers to an episode of otherwise unexplained nausea and vomiting or hippus. It is considered a core clinical characteristic of neuromyelitis optica, but may be present in other neurologic conditions such as multiple sclerosis or posterior fossa tumors.

Case Report: A 10 year-old girl, with no significant past medical history has developed acutely incoercible nausea and vomiting. One week later, she complained about double vision and instability. She had no previous history of other neurological symptoms, preceding illness or fever. Her examination was consistent with multidirectional nystagmus, marked dysmetria of the upper and lower extremities and incapacitating ataxia. She was admitted to the hospital for further evaluation and management. Blood test results were within normal range. Extensive infectious and autoimmunity work up including aquaporin-4 and anti-MOG antibodies were negative. A brain MRI revealed multiple T2-hyperintensities in supratentorial subcortical areas, posterior fossa and brainstem; with gadolinium enhancement along the periaqueductal region. CSF analysis showed normal cell count, protein and glucose levels, with negative cultures and cytology. IgG oligoclonal bands (OCB) with elevated IgG-index were found. The patient was treated with methylprednisolone and experienced rapid improvement. She was diagnosed with pediatric multiple sclerosis (MS) and started on interferon β 1a.

Conclusions: Patients suffering isolated and unexplained incoercible nausea and/or vomiting should be considered to have a neurologic substrate, and demyelinating disorders must be excluded. Clinical suspicion for an early diagnosis is mandatory to start a modifying therapy as soon as possible in MS since new relapses are expected.

nszczekota@gmail.com