

Ecchymosis: An Unexpected Side Effect of Montelukast

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ABSTRACT

Montelukast is a leukotriene receptor antagonist which is used to treat allergy and asthma. It acts as a cysteinyl leukotriene receptor antagonist that block the action of leukotrienes and decrease inflammation. This agent generally well tolerated in clinical practise. Although montelukast is generally considered as a safe drug, it can cause a few adverse drug reactions. In this case study, we will talk about a rare side effect of montelukast that has been reported twice before. The importance of this case report that we mentioned the youngest patient who has ecchymosis due to the use of montelukast treatment.

Since there are other hypersensitivity meds that might be more secure (see likewise Warning segment), this medicine ought to be utilized for this condition just when you can't take other sensitivity drugs or they don't function admirably. This prescription should be utilized consistently to be successful. It doesn't work immediately and ought not to be utilized to diminish unexpected asthma tackles or breathing issues. In the event that an asthma assault or abrupt windedness happens, utilize your snappy alleviation inhaler as endorsed. This medication works by obstructing certain characteristic substances (leukotrienes) that may cause or demolish asthma and sensitivities. It helps make breathing simpler by diminishing growing (aggravation) in the aviation routes.

Keywords: Hypersensitivity; Montelukast; Psychiatric disorders; Asthma

INTRODUCTION

Montelukast is one of the leukotriene receptor antagonists developed at the beginning of the 1990's. When compared to other anti-leukotrienes; montelukast has a wider range of use [1]. Montelukast is rapidly and almost completely absorbed after oral administration. Studies on montelukast have shown that side effects are no different from placebo and that they improve quality of life and respiratory function [2].

METHODOLOGY

Montelukast taken orally is rapidly absorbed from the intestines, 86% is excreted in the faeces and a small part is excreted in the urine [3]. Although montelukast is not known to have a significant side effect, most common adverse event in children are headache, hyperkinesia, abdominal pain, upper respiratory tract infection, fatigue, thirst and rash [4]. Recent studies also reported adverse effect such as psychiatric disorders, allergic granulomatous angitis and sleeping disorders [5,6]. This case report presents an unexpected side effect that can occur due to the use of montelukast.

A 3 year old girl presented to our clinic with complaints of bruising on the left arm and legs. Two months ago she had started taking

montelukast (4 mg/day) due to allergic bronchial cough. The patient's history includes acute bronchiolitis attacks repeated until 2 years of age, followed by allergic bronchitis and recurrent croup episodes. Her family history is positive for allergy background (her grandmother has allergic asthma). The patient had no other complaints except bruising on her extremities. She had no trauma history.

On physical examination, on the front of left arm, there was an ecchymosis with 4 cm diameter and multiple ecchymosis on her legs. There is no other physical evidence except bruising. The laboratory analyses found: Haemoglobin 12.1 g/dL, Haematocrit 34.8%, white blood cell 10060/ml, a neutrophil count 3510/ml, eosinophil count 100 mL, platelet count 391000 ml, erythrocyte sedimentation rate 5 mm/h, C-reactive protein 0.1 mg/l. Coagulation tests were also checked and all blood tests were in the normal range. The result of patient's peripheral blood smear cellularity was normal, PNL 36%, lymphocytes 60% monocytes 4%. According to ultra-sonographic examination; on the posteromedial of the left arm, a hypo echoic solid area with focal hypo echoic mildly silent limited smooth contour at the size of 3.5 × 1.5 × 5 mm under the skin and no coloration in the Doppler US examination was

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observed and follow-up recommended. The patient's medication was discontinued due to the using of montelukast was thought to cause of bruises on her arm. After the drug was discontinued, the ecchymosis disappeared within two weeks and did not recur.

Montelukast is the most commonly used leukotriene receptor antagonist. In clinical practice, montelukast major indications are asthma and intermittent or mild persistent allergic rhinitis. Montelukast is known as one of the safe drugs however it can cause unusual severe adverse effect. More common adverse effects of montelukast are gastrointestinal disturbance, upper respiratory tract infection, worsening asthma, sore throat, depression, tremors and Churg Strauss Syndrome (CSS). Dermatologic side effects are rash, urticaria, vasculitis, erythema nodosum [7]. There are two case reports in the literature about ecchymosis after montelukast use. Aypak et al. reported the case of a 31-year-old woman with a history of allergic rhinitis and asthma, which experienced severe bruising on her lower extremities after starting montelukast treatment. They reported that the ecchymosis resolved upon discontinuation of the montelukast [8]. Another case report involved a 13 year-old girl who presented with ecchymosis during montelukast treatment that significantly improved following discontinuation [9]. It is unclear how montelukast causes ecchymosis, but it may prevent platelet aggregation by interfering with platelet-leukocyte cooperation [10].

CONCLUSION

Leukotriene Receptor Antagonists (LTRA) have been used in asthma treatment since 1990 and since then more than 100 studies on this topic have been published and further studies of montelukast should be undertaken. There are two case reports in the literature about ecchymosis after montelukast use. The importance of this case report we mentioned the youngest patient who has ecchymosis due to the use of montelukast treatment. More clinical trials should be done on montelukast, which we consider to be one of the reliable drugs.

REFERENCES

1. Eser G, Berber M, Saricoban HE. Ecchymosis: An unexpected side effect of montelukast. *Ann Allergy Asthma Immunol.* 2020;18(3):156-158.
2. Cingi C, Ozlugedik S. Effects of montelukast on quality of life in patients with persistent allergic rhinitis. *Otolaryngol Head Neck Surg.* 2010;142(5):654-658.
3. Diamant Z, Mantzouranis E, Bjermer L. Montelukast in the treatment of asthma and beyond. *Expert Rev Clin Immunol.* 2009;5(6):639-658.
4. Markham A, Faulds D. Montelukast. *Drugs.* 1998;56(2):251-256.
5. Harrold LR, Patterson MK, Andrade SE, Dube T, Go AS, Buist AS, et al. Asthma drug use and the development of Churg-Strauss Syndrome (CSS). *Pharmacoepidemiol Drug Saf.* 2007;16(6):620-626.
6. Nayak A, Langdon RB. Montelukast in the treatment of allergic rhinitis. *Drugs.* 2007;67(6):887-901.
7. Meltzer EO, Lockey RF, Friedman BF, Kalberg C, Goode-Sellers S, Srebro S, et al. Fluticasone propionate clinical research study group. Efficacy and safety of low-dose fluticasone propionate compared with montelukast for maintenance treatment of persistent asthma. *Mayo Clin Proc.* 2002;77(5):437-445.
8. Aypak C, Tureli O, Solmaz N, Yikilkan H, Gorpelioglu S. A rare adverse effect of montelukast treatment: ecchymosis. *Respir Care.* 2013;58(9):e104-106.
9. Bene J, Gantois E, Landouzy M, Auffret M, Coupe P, Courouble M, et al. Ecchymosis during montelukast therapy: about one case. *Therapie.* 2014;69(6):517-518.
10. Litt JZ. *Litt's drug eruption reference manual including drug interactions.* CRC. 2004.