P28 ARRHYTHMIAS AND ACUTE CORONARY SYNDROME AFTER INFlixIMAB THERAPY IN A CHILD WITH JUVENILE IDIOPATHIC ARTHRITIS

SriPriya B. Easempati1,2, Aravind Shastri2 and Kate Armon2
1Paediatrics, Norfolk and Norwich University Hospital, Norwich, UNITED KINGDOM, 2Paediatric Rheumatology, Norfolk and Norwich University Hospital, Norwich, UNITED KINGDOM

Background: Infliximab is a potent anti-TNF antibody and has been used with success in JIA. Although serious adverse events like arrhythmias have been reported with infliximab, this is the first reported case of transient acute coronary syndrome in the paediatric population.

Methods: Case report: We report a case of a 15-year-old with JIA and uveitis on weekly methotrexate and four-weekly infliximab infusions at a dose of 6mg/Kg for six months, required to control her uveitis effectively. Four months prior to this event, she had mild chest tightness during an Infliximab infusion, so infusions were given over six hours with antiallergic cover. Twenty-four hours after her last infusion, she presented with sudden onset of persistent palpitations and intermittent chest discomfort i.e. central chest pain and diaphoresis lasting eight hours. Initially, she was tachycardic at 204 bpm but was otherwise well. The tachycardia resolved spontaneously to rate of 80 bpm before an ECG could be done. Differentials included infliximab related arrhythmias or myocarditis or thromboembolic phenomena. On further investigation, electrolytes were normal. Troponin levels were elevated at 1827 ng/l, normal range 0-15; d-dimers were elevated at 8420 µg/L. Resting electrocardiograph, echocardiogram, chest X-ray, CT-pulmonary angiogram, CT-coronary angiogram and viral myocarditis screen were normal. She was admitted for observation but had no further arrhythmias and required no intervention. Troponin levels normalised over one week. Infliximab was discontinued, and an alternative biologic, which is an anti-IL6 drug, commenced after washout period. The patient had no past history of arrhythmias nor any significant family history of cardiovascular events, and lipid profile was normal.

Results: Serious adverse reactions in the form of arrhythmias in approximately 1% of patients have been reported after infliximab therapy. Acute coronary syndrome is a rare event, and has not been previously reported in the paediatric population although it has been reported in two adult patients. Postulated pathophysiology: we hypothesise that infliximab infusion has led to transient acute coronary syndrome and arrhythmias in this patient. TNF assists in the maintenance of myocardial vascular perfusion by vasodilation through induction of nitric oxide, which is also capable of inhibition of apoptosis of myocardiocytes and attenuation of the heart’s stimulation by the sympathetic nervous system through the β-receptors. The administration of a potent anti-TNF antibody like infliximab, at the dose of more than 3mg/kg can neutralise both soluble and membrane TNF thus reducing myocardial vascular perfusion.

Conclusion: This case alerts physicians caring for children and young people that chest pain and dyspnoea during/after infliximab infusion can represent an acute coronary syndrome, even in younger patients without a history of cardiac disease.