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Abstract 10: Single Dose Ivabradine (15mg Single Dose 2 Hours Before The Scan) Is Safe & Effective In Reducing Heart Rate Before Cardiovascular Ct Angiogram (ctca)

Mudassar Baig (MBBS. MRCP)¹, Hassaan Ahmed (MBBS)¹, Ammar Nazir (MBBS, MRCP)¹, Amir Anwar (MBBS. MRCP)², Yogesh Raja (MBBS. MRCP)¹

¹ Sunderland Royal Hospital, Sunderland, United Kingdom

² Royal Bolton Hospital, Bolton, United Kingdom

Introduction: Ivabradine is a ‘funny channel’ inhibitor, effective in reducing heart rate in angina and heart failure patients. Beta-blockers are generally used as a first line agent for heart rate reduction, necessary for CTCA. Studies shown that Ivabradine is effective & comparable to beta-blockers for heart rate reduction in patients with contra-indications to beta-blockers.

Our aim was to assess the effectiveness of Ivabradine 15 mg as a single agent in reducing heart rate in all patients (regardless of airway disease) undergoing cardiovascular CT angiogram.

Methods: We reviewed the data from Cardiovascular CT angiogram, Nov. 2016 to Nov. 2017 and made notes of: 1. Success rate in performing CTCA with adequate heart rate control with Ivabradine 15mg single dose. 2. Adequate heart rate reduction with Ivabradine (15mg single dose given 2 hours before the scan) to perform cardiovascular CT angiogram. 3. Average heart rate reduction at one and two hours. 4. Use of IV Metoprolol in addition to Ivabradine during CTCA.

Results: Out of 207 patients who attended for CTCA, 155 (75%) were given oral Ivabradine 15mg (144 patients) alone or combination of Ivabradine 15mg OD and Metoprolol 25-50mg (11 patients). 9 (4%) patients were given oral Metoprolol 25-50mg, 19 (9.5%) were already

on AV node blocking medications while 24 (11.5%) did not require any rate reduction medication. Ivabradine group had baseline average heart rate (HR) 73bpm and average heart reduction to 63.7bpm and 61.8bpm at one and two hour respectively. Intravenous (IV) Metoprolol, at the time of scan, was given to 97 (62%) patients while 58 (38%) patients heart rate was below 60bpm. Out of 97 patients given IV Metoprolol 56 (36%) received 5-15mg while 41 (26%) needed higher doses of upto 60mg (mostly baseline heart rate > 75bpm). 135 (87%) patients completed the scan while remaining needed second attendance with 2 days of pre-treatment with oral Ivabradine/metoprolol or alternative modality of investigations.

Conclusions: 1. All patient tolerated Ivabradine well and 87% had successful CTCA 2. Ivabradine 15mg single dose given 2 hours before the CCTA is effective as well as adequate in heart rate reduction. 3. Maximum heart rate reduction was seen in the first hour following Ivabradine & more than two third either did not require or needed small doses of intravenous metoprolol 4. Patients with baseline heart rate \geq 75 bpm required higher doses of IV Metoprolol. Such patients may benefit with additional oral metoprolol 25/50mg after one hour of ivabradine.

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