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**INTRAVENOUS  $\beta$ -BLOCKERS ARE SAFE AT HIGH DOSAGES FOR CT CORONARY ANGIOGRAPHY**

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**Background** Achieving good heart rate control is fundamental to optimal CT coronary angiography (CTCA), to minimise motion artefact and facilitate radiation-reducing techniques. The use of  $\beta$ -blockers is widespread although centres vary in their use of oral or intravenous preparations, or use of alternative agents.

At our institution aggressive heart rate control is pursued with intravenous metoprolol tartrate. Standard contraindications are observed but  $\beta$ -blockers are also given cautiously in patients with non-severe asthma or those using diltiazem.

**Methods** We undertook a retrospective analysis of our  $\beta$ -blocker usage to evaluate dosage and safety at our tertiary centre.

**Results** We examined 2219 patients undergoing CTCA over a 28-month period (July 2010–October 2012). In 55 records, use or dosage of  $\beta$ -blockers could not be verified. 758 (34%) did not

receive  $\beta$ -blockers due to baseline heart rate or contraindication. 1406 patients received intravenous metoprolol. The dose range was 2.5–67 mg with a mean of 19.8 mg (median 15 mg). 635 (29%) patients received a dose of metoprolol above the licensed dose of 15 mg. Out of 1406 patients there was a solitary serious adverse incident. Transient loss of consciousness (TLOC) occurred (without sequelae) in a patient under investigation for atypical chest pain and TLOC who received 15 mg metoprolol prior to CTCA. No other complications or adverse incidents occurred. 95 patients received intravenous metoprolol despite a resting heart rate within the traditional target range (<65 bpm). The mean dose in this group was 8.9 mg (2.5–35 mg). No complications or adverse incidents were reported in this cohort.

**Discussion** Our data suggest that the use of intravenous  $\beta$ -blockers to facilitate CTCA is safe, when appropriate consideration is taken, which should include those under investigation for TLOC.  $\beta$ -Blockers can be used at doses significantly higher than currently recommended and heart rate targets can be lower.