## Ticagrelor in ST Elevation Myocardial Infarction (STEMI)

### Areas where applicable
- Emergency and Cardiology

### Areas where not applicable
- Other clinical services and non-STEMI treatment

### Authorised Prescribers
- Medical staff in Emergency and Cardiology departments

### Indication for use
- Patients presenting with acute ST elevation myocardial infarction undergoing primary percutaneous coronary intervention

### Clinical condition
- Patients presenting with chest pain within 24 hours of onset, ECG evidence of acute ST elevation myocardial infarction, and planned primary percutaneous coronary intervention.

### Contra-indications
- Active bleeding
- History of intracranial bleed
- Hypersensitivity to ticagrelor or any of the excipients
- Moderate to severe hepatic impairment.
- Co-administration of ticagrelor with strong CYP3A4 inhibitors

### Precautions
- Significant cardiac conduction disease
- Patients with concomitant administration of drugs that may increase the risk of bleeding
- Asthma/chronic obstructive pulmonary disorder
- Weight < 60 kg
- Hyperuricaemia

### Place in Therapy
- First line in conjunction with aspirin as per STEMI flowchart

### Part of combination therapy, other drugs:
- Aspirin and IV heparin bolus

### Dosage
- Initiate therapy with a single 180 mg loading dose (two tablets of 90 mg) and then continue at 90 mg twice daily.

### Duration of therapy
- For duration of inpatient admission, and following discharge for up to 12 months.

### Important Drug Interactions
- Ticagrelor is a cytochrome P450 3A4 substrate and mild inhibitor of CYP3A4.
- Strong CYP3A4 inhibitors are contraindicated and include ketoconazole, clarithromycin, nefazadone, ritonavir and atazanavir.
- Moderate CYP3A4 inhibitors may increase exposure to ticagrelor and include diltiazem, amprenavir, aprepitant, erythromycin, fluconazole and verapamil.
- CYP3A4 inducers reduce efficacy of ticagrelor and include rifampicin, dexamethasone, phenytoin, carbamazepine and phenobarbitone.
- Concentrations of simvastatin, atorvastatin, digoxin and cyclosporin are increased by ticagrelor. Monitor cautiously for toxicity.

### Administration instructions
- For oral use, tablet taken with or without food.
### Monitoring requirements

<table>
<thead>
<tr>
<th>Safety</th>
<th>Major bleeding If necessary, monitor concentrations of digoxin and cyclosporin, and monitor for adverse effects of simvastatin or atorvastatin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness (state objective criteria)</td>
<td>Need for revascularisation</td>
</tr>
<tr>
<td>Management of complications</td>
<td>Symptomatically managed on a case by case basis and assessment of risk of drug cessation</td>
</tr>
</tbody>
</table>
| **Basis of Protocol/Guideline:** | TGA AUSPAR report  
Steg et al. Circulation 2010; 122:2131 -2141  
European Society of Cardiology. Acute Myocardial Infarction in patients presenting with ST-segment elevation (Management of)  
Joint ACC/AHA Guidelines for the Management of Patients with STEMI  
Prescribing Information (TGA) last updated 28/07/2015 |
| **Groups consulted in development of this guideline** | Department of Cardiology, Cardiothoracic Surgery, Emergency and Cardiac Anaesthetics at the POWH |

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### GOVERNANCE

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| Chair, Drug and Quality Use of Medicines Committee | Professor G. Rubin |
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