

Society for Endocrinology Position Statement for the Peri-operative Preparation of Patients with Pheochromocytoma/Paraganglioma (PPGL)

The pre-operative preparation of patients awaiting surgery for secretory PPGL should be undertaken by an experienced endocrinologist working closely with an experienced endocrine surgeon. In 2014, The Endocrine Society published a Clinical Practice Guideline on the management of PPGL that includes a comprehensive section on perioperative management (1).

The key points in the peri-operative management of patients with PPGL are outlined below.

- All patients should undergo treatment with an alpha-receptor blocker prior to surgery. In practice, most UK centres use the non-selective alpha blocker, phenoxybenzamine, but selective alpha blocking agents such as doxazosin can also be used. Alpha blockade should be commenced at least 14 days prior to surgery but are often used for longer periods in symptomatic patients. The usual starting dose of phenoxybenzamine is 10 mg once or twice daily, increasing by 10 mg increments every few days until a target blood pressure is reached; the typical dose required to achieve this is 20-100 mg. Similarly, oral doxazosin should be commenced at a dose of 1-2mg daily and increased in 1-2mg increments until blood pressure and symptoms are controlled.
- Calcium channel blockers can be used in addition to alpha-blockade in patients who have persisting hypertension. Beta-blockers can be used as an alternative adjunctive agent particularly to treat associated tachycardia. It is important that beta blocker therapy is not commenced until at least 4 days after alpha blocking treatment in order to avoid unopposed stimulation of alpha1-adrenoceptors.
- Patients should also be advised to commence a high sodium diet and increase their fluid intake after starting alpha-blockers in order to reverse catecholamine-induced blood volume contraction as well as improve postural hypotension and reduce the risk of post-operative hypotension. If practical, admission of PPGL patients on the day before surgery allows administration of intravenous saline which can also expand plasma volume.
- An optimal target blood pressure is less than 130/80 mm/Hg (seated) and a systolic blood pressure of >90 mm/Hg on standing. A target heart rate of 60-70 bpm seated and 70-80 bpm standing is also recommended.
- Alpha blockade should be discontinued in the immediate post-operative period.

This position statement has been revised and updated by Dr. Marie Freel (University of Glasgow) in 2017 and replaces the original position statement published in 2010. This information is provided and endorsed by the Society for Endocrinology's Clinical Committee.

References

1. Lenders JWM, Duh QY, Eisenhofer G et al. Pheochromocytoma and Paraganglioma: An Endocrine Society Clinical Practice Guideline. 2014 J Clin Endocrinol Metab 99:1915-1942.