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Appropriate Premedication Risk Reduction During Adrenal Ablation

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Editor:

We read with great interest Atwell et al (1) report in the March issue of JVIR on “Malignant hypertension during cryoablation of an adrenal gland tumor.” We cannot stress enough the importance of effective collaboration between the interventional radiologist and anesthesia team. During manipulation of the adrenal gland by surgery or minimally invasive modalities, a hypertensive crisis due to systemic catecholamine release is a rare although not unheard of complication (1–4). When catecholamine release is thought to be likely (ie, functional adrenal tumor or pheochromocytoma), premedication with alpha adrenergic blockade such as phenoxybenzamine for several days prior to the procedure is critical in preventing hypertensive crisis. In these riskier settings, many patients may also require beta blockade due to the resultant tachycardia associated with alpha blockade, and thus the clinician should ensure that the patient receives beta blockade only *after* adequate alpha blockade. This is due to the fact that unopposed alpha receptor stimulation can also precipitate a hypertensive crisis (6).

Furthermore, α -methyl-para-tyrosine or metyrosine (DemserTM; Merck, Sharp & Dohme, West Point, PA) should be considered several weeks before the procedure. Metyrosine is a tyrosine hydroxylase inhibitor that blocks the conversion of tyrosine to DOPA, the rate-limiting step in the production of catecholamines, and subsequently reduces catecholamine production by 50 to 80% (7). Studies during surgery for pheochromocytoma have shown that a combination regimen of phenoxybenzamine and metyrosine is more effective in controlling blood pressure and results in less need for use of antihypertensive medication or pressors than single-agent α -adrenergic blockade alone (4). Less blood loss and less intraoperative fluid replacement have also been seen with this combination regimen (5). Since these findings have not been confirmed by any prospective study, it should be noted that the addition of metyrosine may not be suitable for every patient and should be considered on a case by case basis since preloading and dose titration of metyrosine may take weeks (7). The report by Atwell et al and other groups (1–3) on malignant hypertension in patients presumed to have *nonfunctional* tumors suggests that perhaps more patients with these tumors should be premedicated prior to surgery or ablation. While completely eliminating the possibility of a hypertensive crisis is unlikely, proper precautions could significantly decrease such events from occurring.

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