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Drugs

PHEOCHROMOCYTOMA Prior to the introduction of adrenergic blocking agents, surgical operations on patients with pheochromocytoma carried mortality rates of 25 to 50 per cent; the former rate if the presence of the tumor was known and prepared for, the latter if its presence was unsuspected. Wide swings of pressure, from severe hypertension during handling of the tumor to hypotension after its removal, along with arrhythmias, are the chief hazards. Alpha-adrenergic blockade initiated several days prior to surgery helps prevent the hypertensive crisis and allows expansion of the plasma volume. Beta-adrenergic blockers can be given just prior to and during surgery to control the catecholamine-induced arrhythmias and to counter the tachycardia which results from alpha blockade and high catecholamine levels. Combined alpha and beta blockade, however, presents other problems. Blood loss in a fully-dilated system that cannot compensate by vasoconstriction and is not associated with the warning sign of tachycardia can be disastrous. Contrariwise, overtransfusion can lead to failure with beta blockade. Careful arterial and venous pressure monitoring and accurate measurement of blood loss can help avert these problems. (*Ross, E. J.: Safer Surgery for Patients with Pheochromocytomas, Amer. Heart J. 74: 443 (Oct.) 1967.*)

PHEOCHROMOCYTOMA Pheochromocytoma may cause death by cerebral hemorrhage, pulmonary edema, left heart failure, ventricular fibrillation, or renal failure. To minimize these fatal complications, elevated blood pressure must be reduced. Neither barbiturates, reserpine, hydralazine, veratrum, alkaloids, saluretics, amyl nitrite, nor hexamethonium should be expected to reduce the effects of catecholamines. Ergot derivatives, dioxane compounds, alkylamines (dibenzyline), and imidazoline derivatives (phentolamine) are useful adrenergic blocking agents. Methyldopa interferes with storage and release of catecholamines and is used in treatment of incurable pheochromocytomas. Halothane is the anesthetic agent of choice; adrenal steroids should be available during bilateral adrenalectomy. Postoperatively, vasopressin should be used after a maximal blood volume has been established. (*Rosenberg, J. C., and Varco, R. L.: Physiologic and Pharmacologic Considerations in the Management of Pheochromocytomas, Surg. Clin. N. Amer. 47: 1453 (Dec.) 1967.*)