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Anesthetic approach in bilateral pheochromocytoma surgery in adolescent patient

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Introduction: Pheochromocytoma is aneuroendocrine tumor deriving from adrenal medulla. Its clinical picture includes symptoms such as hypertension, headache, perspiration, palpitations and anxiety. In this report, in a case of adolescent patient undergoing bilateral adrenealectomy due to pheochromocytoma and our anesthesial approach to this patients is presented.

Case: A 15 year old male patients presented to pediatric surgery clinic with complaints of headache, stomach ache, and blood in urine. His father had died due to adrenelectomy operation due to pheochromocytoma. In blood investigations, vanylmandelic acid and normetanefrin levels were established to be high. Hemogram and biochemical test results were within normal range and in abdominal USG, in right and left surrenal gland lodge,hypoechoic solid lesion with regular borders was observed. Presumable diagnosis of pheochromocytoma was made. Bilateral total laparascopic adrenelectomy was planned and preoperative hidrocortizone and fenoxybenzamin treatment was initiated by pediatric endocrinology clinic. In operation theater, standard monitorization and invasive artery monitorization was carried out prior to anesthesia induction. For anesthesia induction, iv lidocainHCl (1mg/kg), propofol (4 mg/kg), fentanyl(4mcg/kg), rhocuronium bromure (1 mg/ kg), and 3mg/kg hydrocortisone were administered. After complete relaxation,endotracheal intubatrion was performed. Due to refractory high blood pressure values, immediately after induction, remifentanil, perlinganit, niprus and beta blocker infusion was commenced. In addition, in sudden surges of blood pressure, fentolamin was used.Anesthesia maintenancewas made with sevoflurane (2%) and remifentanil 1mcg/kg/min infusion. Right internal jugular vein catheterization was carried out and central venous pressure and hourly urinary monitorization was made. Laparatomy was replaced by open surgery following intravenous vein injury and 2 units of erithrocyte suspansion was administered. For postoperative pain, 0.5mg/kg morphine was administered 30 minutes before the end of operation. No additional problem was encountered during the operation lasting approximately 150 minutes and patients was extubated and transferred to pediatry ward.

Discussion: Pheocchromocytoma is mostly benign tumor usually deriving from adrenal medulla. Clinical picture is produced by catacholamines released by the tumor. Hypertension is usuallly the initial finding. Anesthesia induction and surgical manipulations usually lead to the catastrophic release of chatacolaamines. Treatment is surgical resection of primary tumor and metastases. In pheochromocytoma, gold standard in preoperative preparation is controlling heart rate and blood pressure and fluid replacement. For hypertension control, various drugs are recommended such as nitrogliserin and nitroprussid infusions,fenoxybenzamin,fentolamine,nicardipin and labetolol for hypoglicemia attacks, dextrose and for hypotension, dopamin should be kept ready.

Conclusion: In pheochromocytoma surgery, care should be exercised for hypotension, hypertension,hypoglicemia, hyperpotasemia, and hyponatremia. It is our belief that with optimum preoperative preparation and intraoperative anesthesia management, mortality and morbidity can be reduced significantly.

Biography

Ozkan Onal has completed his medical education at Gazi University Medical Faculty and he was specialized in anesthesiology in Hacettepe University Medical Faculty. He has more than 15 publications in reputed journals in the field of anesthesia.

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