Synchronous bilateral adrenalectomy

Indications

Hypercortisolism requires prompt therapeutic management to reduce the risk of development of a potentially fatal emergency. A synchronous bilateral adrenalectomy (SBA) is effective in recovering hypercortisolism. However, specific indications for an SBA are not available.

Chiloiro et al. aimed to evaluate the outcome of patients who underwent an SBA and to identify biomarkers able to predict the requirements of an SBA.

A mono-centric and longitudinal study was conducted on 19 consecutive patients who underwent synchronous bilateral adrenalectomy (SBA) for ACTH-dependent hypercortisolism between December 2003 and December 2017. This study population was compared to two control groups composed of patients cured after the resection of Pituitary corticotroph adenomas (Group A: 44 patients) and of the ACTH-secreting neuroendocrine tumors (Group B: 8 patients).

Short- or long-term SBA complications or the recurrence of hypercortisolism did not occur. A single patient experienced Nelson syndrome. Clinical features after SBA showed improvement in the glico-metabolic assessment, hypertension, bone metabolism and the occurrence of hypokalemia and infections. The younger the age at the time of Pituitary corticotroph adenoma diagnosis, the longer the duration of active hypercortisolism, higher values of plasmatic ACTH and Cortisol (1 month after pituitary neurosurgery) and higher values of Ki67 in pituitary neuroendocrine tumors were detected in this study population as compared to Group A.

SBA is an effective and safe treatment for patients with unmanageable ACTH-dependent hypercortisolism. A multidisciplinary team in a referral centre with a high volume of patients is strongly recommended for the management of these patients and the identification of patients, for better surgical timing [1].

When performed via the laparoscopic approach, BLA is associated with a significantly reduced morbidity compared to the traditional, open approach. Following BLA, patients are at risk for adrenal crisis and the concern of Nelson's syndrome. However, BLA leads to a rapid resolution of the signs and symptoms of CS and leads to an improved long-term quality of life.

BLA should be considered in the treatment algorithm for patients with persistent CD after failed pituitary surgery, especially in patients who have severe consequences of hypercortisolism or desire pregnancy [2].

A minimally invasive operation is feasible in 93 % of patients undergoing bilateral adrenalectomy with 65 % of adrenalectomies performed using the PR approach. Indications for the LT approach include morbid obesity, tumor size >6 cm, and other concomitant intraabdominal pathology. Single-stage adrenalectomies are feasible in most patients, with prolonged operative time causing respiratory instability being the main indication for a staged approach [3].

Complications

Nelson's syndrome (NS) is a significant and frequent risk for patients with Cushing's disease (CD) who undergo bilateral adrenalectomy. A recent study has shown tumor progression in 47% of patients at risk for NS.

These findings suggest that GK SRS not only serves a role as second-line therapy for CD, but that it also provides prophylaxis for NS when used before bilateral adrenalectomy [4].

1)
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