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TOTAL THYROIDECTOMY IN EMERGENCY. EXPERIENCE OF A SURGICAL UNIT

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Objective: Total thyroidectomy is an elective surgical procedure which is occasionally performed in emergency settings in patients with acute respiratory failure resulting from laringo-tracheal invasion or obstruction from thyroid disease.
Methods: Between 2005 and 2012, in our Academic Institution, 8 patients (0.7%; 5 female e 3 male; mean age: 68.7 years, range: 42-81) with severe worsening respiratory distress underwent emergency total thyroidectomies.
Results: Mean operative time was 146 minutes (range 53-260). A manubriotomy was performed in 50% of cases due to mediastinal extension of the gland. One patient required a tracheotomy for tracheomalacy, and another one required a parathyroid gland transplant. The post-operative hospital stay was 2-10 days. Histology revealed primary malignancy tumors in 6 cases and one secondary tumour. 2 cases of transient recurrent laryngeal palsy (RLNP) , 1 case of permanent RLNP, 3 cases of transient post-operative hypoparathyroidism and 4 pleural effusions were detected. There was no mortality.
Conclusions: Severe non-traumatic respiratory distress may result from spontaneous intrathyroideal hemorrhage, invasion of tracheal lumen by primitive or secondary tumors, compression from benign or malignant masses and bilateral vocal cord palsy. In case of acute respiratory failure due to laringo-tracheal obstruction from thyroid mass compression or invasion, immediate hospitalization, appropriate preoperative management and an emergency total thyroidectomy is necessary.

INNOMINATE VEIN FLOATING NEOPLASTIC THROMBUS FROM THYROID CANCER

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Objective: Cases of surgically resected thyroid cancer with massive invasion into the neck and mediastinal great vessels have rarely been reported and generally lead to a good prognosis. Surgical management, however, requires a careful approach. We present a case of follicular thyroid carcinoma extending into the left innominate vein.
Methods: A 59 year-old woman was referred to our Academic Institution with a huge cervico-mediastinal goiter, complaining of facial flushing, left arm swelling and dyspnoea. A preoperative CT-scan showed an enlarged thyroid mass extending into the upper mediastinum, with displacement and compression of mediastinal vessels. Total thyroidectomy, through a sternal split, and lymph node dissection was performed. The tumor mass extended directly into the left innominate vein, floating in its lumen. The vessel was clamped up and down-stream, and a segmental resection of the left brachiocephalic vein was performed. The patient had an uneventful post-operative course and was discharged without any persistent complications.
Results: Histological features of goiter and thrombus indicated follicular carcinoma. The patient received 131I radioisotope and external radiation beam therapy and died 5 years later due to disease progression.
Conclusions: A careful preoperative evaluation with a CT-scan and 3D-reconstuction is recommended in cases of cervicomediastinal goitre whenever angioinvasion is suspected. A total thyroidectomy with a sternal split and vascular resection should be the treatment of choice in cases of follicular thyroid carcinoma extending into great mediastinal vessels.

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THYROID AND CARDIAC DISEASE: A SINGLE-STAGE SURGERY

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Objective: Thyroid hormones produce changes in the cardiovascular system, affecting cardiac contractility, myocardial oxygen consumption, cardiac output, blood pressure, and systemic vascular resistance. The incidence of thyroid dysfunction in patients with cardiac disease is 11.2%, but combined thyroid and cardiovascular surgery has rarely been reported. The aim of this study was to analyze the outcome of a series of patients who underwent combined total thyroidectomy (TT) and cardiac surgery and to review the literature.
Methods: During 2009, 10 patients (6 F, 4 M, mean age 66.3, range 51–73 years) affected either by thyroid or cardiac diseases were enrolled in this study. They underwent TT and cardiac surgery at the same time. Cardiac surgery was performed on 6 patients with coronary artery disease and 4 with valvulopathy. All patients were affected by a multinodular goiter which was retrosternal in 6 of them.
Results: Mean stay in the intensive care unit was 46.4 hours and the mean hospital stay was 8.4 days. There was no mortality. Postoperative morbidity consisted of one case of transient laryngeal nerve palsy and 3 cases of transient hypocalcemia. There was one case of hemodynamic compromise needing vasoactive drug support.
Conclusions: Our experience and review of the literature suggest that it is always justifiable to conduct preoperative screening for thyroid disorders in patients undergoing cardiac surgery. In case of both diseases, a single-stage procedure is recommended as it is safe, feasible, and, despite consisting of two separate procedures, reduces perioperative and anesthesiological risk.

HYPERCALCEMIC CRISIS: A RARE MANIFESTATION OF PRIMARY HYPERPARATHYROIDISM. CASE REPORT AND LITERATURE REVIEW

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Objective: Hypercalcemic crisis is a rare and potentially lethal manifestation of primary hyperparathyroidism. It is associated with rapid deterioration of the central nervous system, cardiac, gastrointestinal and renal functions.
Methods: We present a case of a 76-year-old man in a sudden coma due to hypercalcemic crisis as a first manifestation of primary hyperparathyroidism. A systematic review was performed by consulting PubMed MEDLINE for publications from 1958 to 2011.
Results: After nine days of medical therapy that improved his mental status, the patient underwent minimally invasive radio-guided parathyroidectomy. Histology evidenced a parathyroid adenoma. Calcaemia level and PTH were normalized in the immediate postoperative period. The recovery was uneventfull and the patient was discharged 72 hours after the operation.
The systematic literature review collects a total of 499 reported cases of hypercalcemic crisis due to primary hyperparathyroidism and it shows that generally primary hyperparathyroidism is found incidentally via simple laboratory tests such as serum calcium and parathyroid hormone (PTH) levels. Hypercalcemic crisis detection at first sight is rare and, unless treated, associated with a mortality rate of 100%. The most frequent histology is the parathyroid adenoma.
Conclusions: Despite the advances in management of hypercalcemic crisis, the mortality rate is still 93.5% in patients treated conservatively. Multidisciplinary management, in order to obtain hydration and diuresis and following parathyroidectomy, should be performed to improve survival. Because the hypercalcemic crisis may be the first manifestation of primary hyperparathyroidism, the assay of PTH and imaging of the neck should be primarily considered during diagnostic approach.

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ADRENAL CYSTS: CLINICAL AND SURGICAL MANAGEMENT

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Objective: Adrenal cysts represent a rare entity with different ethiology and different clinical significance. Due to their very low incidence and heterogeneity in clinical aspects, many controversials still exist about their management and treatment.
Methods: From 1984 to 2012, 21 patients (7 M, 14 F, mean age 48.2 years) underwent adrenalectomy for adrenal cysts. 9 patients suffered from hypertension, and 7 were affected by thyroid disorders.
Results: 4 patients presented with vague abdominal pain, while in 17 patients cyst was incidentally identified during imaging examinations. All patients underwent complete adrenal function evaluation and imaging study. We found 1 case of cystic pheochromocytoma (confirmed by urinary and blood sampling, and MIBG-scan). All patients underwent adrenalectomy (open approach in the first 10 patients treated from 1984 to 1996, laparoscopic lateral transabdominal approach in the other 11 cases). Indication to surgery included: size over 4.5 cm in 16 cases, malignangy suspicion ad imaging (not confirmed by histology) in 4 cases, cystic pheochromocytoma in 1 case. Histology revealed 11 endothelial cysts, 3 pseudocysts, 6 epithelial cysts and 1 cystic pheochromocytoma.
Conclusions: The presence of adrenal cyst, even asymptomatic, requires complete endocrinological evaluation and imaging study. In the presence of large size, endocrine activity or any suspicion of malignancy, patients must be referred to mini-invasive adrenalectomy (or open adrenalectomy when needed).

LAPAROSCOPIC ADRENALECTOMY: SINGLE CENTRE EXPERIENCE

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Objective: Laparoscopic adrenalectomy is today considered the gold standard treatment for all benign adrenal tumors. The aim of this study is to evaluate the results of laparoscopic adrenalectomy in a single centre.
Methods: We reviewed clinical data on 32 adrenalectomies performed at our istitution from 2009 to 2012. The average age of patients was 47 years (range 38-68); 18 were men and 14 women. For the clinical analysis, patients were divided into the non-functioning tumor group (n = 20) and the functioning tumor group (n = 12). All operations were performed via transperitoneal lateral access.
Results: All laparoscopic adrenalectomy were finished successfully and no open surgery was necessary. The median operative time and blood loss in two group were similar. Only in a case of non-functioning left adrenal mass we had a significative intraoperative blood loss managed via laparoscopy with hemostatic matrix. 3 patients with aldosteronoma became normotensive and no longer required postoperative blood pressure medications. 9 patients with Cushing adenoma had resolution or improvement of clinical signs during follow-up periods. In a case at definitive histological analysis we found an adrenocortical carcinoma treated with no capsular disruption during dissection.
Conclusions: The results of this retrospective review document that laparoscopic adrenalectomy is a safe and effective treatment for functioning as well as and non-functioning adrenal tumors. Pre-operative workup plays a fundamental role in these diseases. Mere size should not be considered as a contraindication to laparoscopic approach in adrenal masses without signs of local invasion.

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LAPAROSCOPIC ADRENAL-SPARING SURGERY: EXPERIENCE OF A REFERRAL CENTRE

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Objective: Partial adrenalectomy is usually performed for the treatment of bilateral pheochromocytomas and in case of sporadic, monolateral tumors, to minimize the risk of adrenal failure, especially in younger patients. Due to the lack of consistent series, many issues such as correct surgical indications and technical aspects still need to be debated.
Methods: From 2007 to 2010 we performed four unilateral partial adrenalectomies (3 aldosterone-producing adenomas and 1 cortisol-producing adenoma), and three bilateral subtotal adrenalectomies, consisting in total adrenalectomy on one side and partial adrenalectomy on the contralateral gland (3 bilateral pheochromocytomas in MEN IIa). In case of single tumor, partial adrenalectomy was carried out without adrenal vein ligation and the results were similar to total adrenalectomy both in terms of surgical and functional outcome, with normalization of hormone levels and control of hypertension.
Results: Operating time and postoperative stay were not significantly different from unilateral total adrenalectomy. In case of bilateral subtotal adrenalectomy our results demonstrate effectiveness in terms of surgical outcome and control of hypertension, but one patient needed steroid replacement therapy due to post-operative adrenocortical failure.
Conclusions: Care must be taken when giving indication to adrenal sparing surgery, because this procedure can be technically difficult, and due to the risk of recurrence, especially in case of bilateral tumors, it can affect both surgical and functional outcomes.

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