ISW26-492-01 (0408)

COMPARATIVE EVALUATION OF RECURRENT LARYNGEAL NERVE MONITORING EFFICACY USING PAIRED INTRAMUSCULAR NEEDLE ELECTRODES IN THE LATERAL CRICOARYTENOID MUSCLE VERSUS INTRA-LARYNGEAL ELECTRODES DURING THYROID SURGERY

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Introduction:
To evaluate the effectiveness and safety of intraoperative neuromonitoring (IONM) of the recurrent laryngeal nerve (RLN) using paired intramuscular needle electrodes inserted into the lateral cricoarytenoid muscle during thyroid surgery, and to compare this method with the traditional technique employing an endotracheal tube with integrated electromyographic (EMG) electrodes.

Material and Method:
A multicenter prospective study was conducted from 2021 to 2024 involving 129 patients undergoing surgery for thyroid diseases. Participants were divided into three groups: • IONM with paired intramuscular needle electrodes placed in the lateral cricoarytenoid muscle (n=49), • IONM using EMG endotracheal tube (n=31), • control group with visual RLN identification only (n=49). All patients underwent pre- and postoperative vocal fold mobility assessments, with follow-up laryngoscopy when indicated.

Results:
The incidence of postoperative laryngeal muscle paresis/paralysis was significantly lower in both IONM groups compared to the control ($p=0.039$ and $p=0.021$ for groups 1 and 2, respectively). There were no statistically significant differences in electrophysiological parameters (latency and amplitude) between the intramuscular and EMG-tube methods ($p>0.05$). The novel intramuscular method showed consistent signal acquisition, minimized the risk of false signal loss, and was technically simpler and potentially more cost-effective.

Conclusion:
The application of paired intramuscular needle electrodes into the lateral cricoarytenoid muscle provides a reliable and safe alternative to conventional EMG-tube-based IONM.The findings strongly support the routine implementation of IONM to reduce the risk of RLN injury in thyroid surgery, and this new technique expands the arsenal of effective monitoring strategies.

ISW26-492-02 (0347)

SINGLE CENTER EXPERIENCE WITH LAPAROSCOPIC ADRENALECTOMY AND OPEN SURGERY ON A PREOPERATIVE DIAGNOSIS OF ADRENAL HEMORRHAGE

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Introduction:
Laparoscopy has become the procedure of choice for treating benign functioning and non-functioning adrenal tumors. It is the gold-standard technique for small and medium-sized benign adrenal masses (<6 cm). Open surgery remains the first choice for adrenal cancer, especially in cases where surrounding tissues are involved or for tumors larger than 6 cm.

Material and Method:
Between 2012 and 2022, a total of 649 adrenalectomies were performed, 39 of which were due to adrenal hemorrhage (AH) detected in emergency rooms in a Polish hospital and finally admitted for diagnosis and treatment to the Department of Internal Medicine and Endocrinology or Department of General, Endocrine and Vascular Surgery.

Results:
The patient group was an average age of approximately 56 years. The mean size of adrenal tumors was 71.9 mm, and more than half of the patients had tumors larger than 60 mm. The most common tumor type was pheochromocytoma (28.2%, n=11), followed by adrenal adenoma (23.1%, n=9), adrenocortical carcinoma (10.3%, n=4), and adrenal metastases (7.7%, n=3). Approximately 53% of the surgeries involved the left adrenal gland, and nearly 80% were performed laparoscopically.

Conclusion:
Although laparoscopic techniques have become a routine part of daily surgical practice, it is important not to overlook the value of traditional open surgical approaches. As demonstrated by our experience, almost any tumor can be safely removed laparoscopically if it meets the appropriate criteria. However, in hemorrhaging tumors where the capsule has ruptured, laparoscopic surgery is dangerous for the patient. Open surgery should be chosen in these cases.

ISW26-492-03 (0939)

PERCUTANEOUS THERMAL ABLATION OF THYROID NODULES USING 12MIN SOPHROHYPNOSIS INDUCTION

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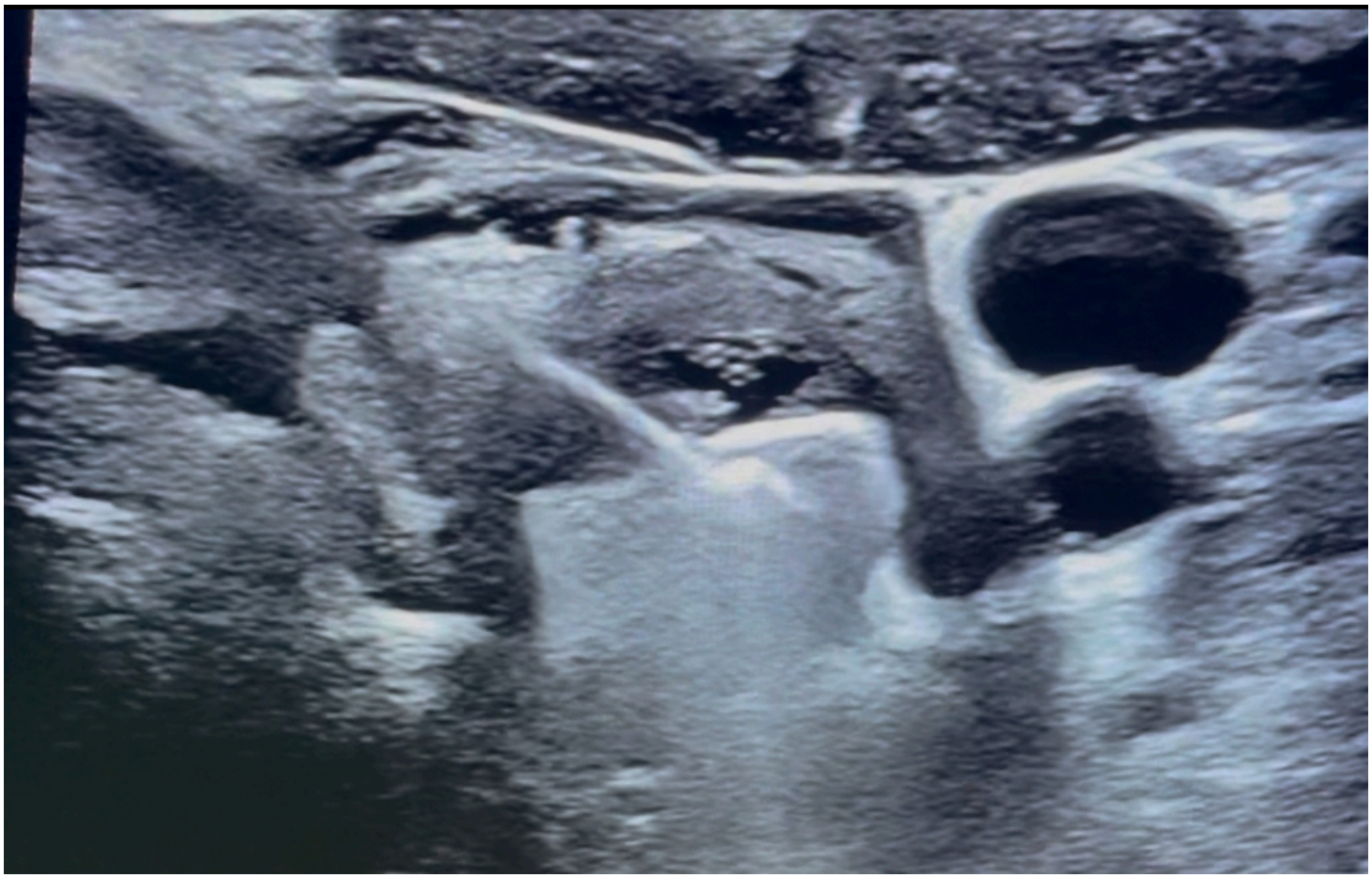
Introduction:
Percutaneous microwave thermal ablation (MWA) has gained attention as a minimally invasive alternative technique (MIT) to surgery for benign selected thyroid nodules. This study aimed to prospectively evaluate the efficacy and safety of MWA in a cohort of 100 patients with 12-month follow-up. Patient anxiety, pain perception, and procedural discomfort remain relevant challenges. All patients underwent a “Let It Go” protocol, integrating sophrology and guided hypnosis techniques to induce relaxation, enhance resilience, and improve tolerance of MIT.

Material and Method:
100 patients (78 women, 22 men; mean age 46.7 years(range: 17-91y) presenting with symptomatic (mechanical compression > 4/10, and /or cosmetic score >3/4, autonomous) Bethesda B2 thyroid nodules underwent ultrasoundp-guided percutaneous MWA (SABERWAVE ECO-200G, China). All procedures were performed under local anesthesia using a standardized protocol and a 12min « let it go » sophro hypnotic induction. Nodule volume, symptom and cosmetic scores, thyroid function tests, and complications were assessed at baseline and at 1, 3, 6, and 12 months. Procedure was performed by using real-time ultrasound guided MWA, exclusive trans isthmus approach, moving shot technique, and cooled continuous dextrose hydrodissection. Generator power input was <= 30Watts, antenna needle was 100mm length and 17G. Let-it-go technique included five items (classical music, softened light, modified respiration, calm soft regular voice, imaginative stimulation).

Results:
Technical feasibility was 100% even in short neck obese patients.Recovery time was 1-2days, complication rate was 3%, including a fugace Horner syndrome (<5min), transient hoarseness (< 20min), self limited minimal nodule rupture; there was no thyroid function test disturbance and TSH normalization in all autonomous nodules but one patient who was successfully retreated.

Conclusion:
MWA outcomes—nodule volume reduction and preservation of thyroid function—remain uncompromised. Integrating the “Let It Go” sophrohypnosis protocol into thyroid MWA represents a promising patient-centered innovation. By addressing both physical and psychological dimensions of care, this approach may redefine procedural comfort, broaden acceptability of minimally invasive thyroid therapies, and support holistic well-being in endocrine practice. Larger controlled studies are warranted to confirm these findings.



ISW26-492-04 (0857)

MICROSCOPIC POSITIVE SURGICAL MARGINS PREDICT RECURRENCE ONLY IN NODE-NEGATIVE PAPILLARY THYROID CARCINOMA

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Introduction:
Microscopic positive surgical margins (mPSMs) increased the risk of recurrence in papillary thyroid carcinoma (PTC), although recurrences rates vary widely (0.5% to 13.6%) depending on additional high-risk factors such as concurrent lymph node (LN) metastasis. This study investigated the impact of mPSM according to LN metastasis status in patients with PTC.

Material and Method:
Between 2009 and 2023, 2,584 patients who underwent thyroid surgery for PTC were enrolled. Patients were stratified into three groups based on nodal status: N0, N1a, and N1b groups. Primary outcome measure was 5-year recurrence-free survival (RFS).

Results:
The mPSMs were found in 54(3.1%) in N0, 31(4.7%) in N1a, 17(9.3%) patients in N1b groups. After a mean follow-up of 7.7 years, 59(2.3%) patients experienced disease recurrence: 21(1.2%) in N0, 24(3.6%) in N1a, and 14(7.7%) in N1b. In the N0 group, patients with mPSM had significantly worse 5-year RFS compared to those with clear margin (88.9% vs. 99.1%; $p<0.001$). In contrast, no significant differences in 5-year RFS were observed between mPSM and clear margin groups in N1a (96.0% vs. 96.3%, $p=0.808$) or N1b (92.9% vs. 92.1%, $p=0.362$). mPSM was associated with a higher recurrence rates in the N0 group (HR 5.7, 95%CI 1.5-21.7), but not in N1a (HR 1.4, 95%CI 0.2-10.4) or N1b (HR 1.5, 95%CI 0.3-8.7).

Conclusion:
Our findings demonstrate that the prognostic impact of mPSM in PTC is context-dependent, being significant only in node-negative disease. This highlights the need for tailored risk assessment and follow-up strategies based on both margin and nodal status.

ISW26-492-05 (0317)

PREDICTORS OF POSTOPERATIVE COMPLICATIONS AFTER ADRENALECTOMY

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Introduction:
Our objective was to identify and analyze predictors of postoperative complications following adrenalectomy.

Material and Method:
This is a prospective study of all adrenalectomies in our department during the last decade. Recorded data were: age, sex, final diagnosis, malignancy, functionality, previous abdominal surgery, type of operation (laparoscopic, open or conversion to open), adrenalectomy side, concurrent surgical procedure, intraoperative complications, operative time, adrenal gland weight and diameter, adrenal tumor diameter and hospital stay. Cases with postoperative complications were compared with those without complications.

Results:
During the study period, 151 adrenalectomies were performed (female: 60.9%, mean age: 54.1±12.8 years). Diagnosis was non-functioning adenoma in 33.1%, ACTH-independent Cushing's syndrome 16.6%, pheochromocytoma 16.6%, Conn's syndrome 10.6%, metastasis 7.3%, primary adrenal malignancy 4% and other rare cases in 11.9%. Laparoscopic adrenalectomy was conducted in 78.8%, open 14.6% and conversion to open in 6.6%. Twenty patients (13.2%) developed postoperative complications including respiratory, urinary, intra-abdominal and wound complications. Postoperative complications were encountered less often in Conn's syndrome whereas more frequently in primary adrenal malignancy ($p=0.04$). They were also more often in open and even more in conversions compared to laparoscopic procedures ($p<0.001$), in malignant cases ($p=0.03$) and in patients who presented intraoperative complications ($p<0.001$). Cases with postoperative complications had longer operative time ($p=0.01$) and hospital stay ($p<0.001$). No other significant differences were noted.

Conclusion:
Post-adrenalectomy complications are not infrequent and significantly lengthen postoperative hospital stay. Patients with malignancy, intraoperative complications, prolonged operative time and open or conversion to open procedure are more likely to suffer from postoperative complications.

ISW26-492-06 (0630)

WHAT IS THE INCIDENCE OF CAP IN PARATHYROID ADENOMAS?

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Introduction:
Autofluorescence in parathyroid tissue is produced by an endogenous fluorophore. Even though all adenomas showed a heterogeneous pattern of autofluorescence, some display a clear, well-defined bright region within the gland named “cap” corresponding to the normal remnant. This study aims to determine the characteristics of patients with parathyroid adenoma who have a “cap” versus those without a “cap”.

Material and Method:
It is a retrospective study of a prospectively formed database, including all patients operated on for a single adenoma, over the five-year period during which we employed Fluobeam LX. 494 single adenoma patients were divided, based on the presence of cap in the pathology report, into “cap” and “non-cap” groups (335 vs 159 patients). The epidemiologic, biochemical, and pathology characteristics of both groups were recorded and analyzed.

Results:
There is no statistically significant difference between the groups existed concerning demographic and biochemical characteristics (pre- and post-operative parathormone, calcium, and phosphorus levels). In pathology, the adenomas of the “cap” group were significantly heavier than those of the “non-cap” (1.741[2.789] vs 1.345 [1.238] (p=0.001)), while there was no difference in the maximal diameter. The “non-cap” adenomas were predominantly left-sided (p=0.01). CAPTHUS score was similar for both groups, while intra-operative fluorescence presented “cap sign” in 91.3% for the “cap” group vs 3.1% for the “non-cap”.

Conclusion:
Single adenomas present a remnant of normal tissue in 68% of cases. The patients in the “cap” group present fluorescence of the remnant intra-operatively. The “non-cap” group has a higher probability of having the adenoma located on the left side.

ISW26-492-07 (0504)

CLINICAL OUTCOMES OF ADRENALECTOMY IN A RESOURCE-LIMITED SETTING: PREDICTORS OF COMPLICATIONS AND SURGICAL CHALLENGES

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Introduction:
Adrenalectomy is the definitive treatment for adrenal tumors, performed via open or laparoscopic approaches based on tumor characteristics. However, limited data are available from developing countries, especially in the Middle East. This study aimed to assess the clinical presentation, tumor characteristics, surgical approaches, and outcomes of adrenalectomy in a resource-limited setting.

Material and Method:
A prospective descriptive study was conducted on 43 patients who underwent adrenalectomy at tertiary hospitals in Yemen between January 2020 and April 2025. Data on demographics, tumor features, surgical details, and postoperative outcomes were analyzed using SPSS v20, with significance set at $p < 0.05$.

Results:
A total of 49 procedures were performed. The mean patient age was 29.5 ± 15.4 years; 65.1% were female. Hypertension (48.8%) was the most common symptom. Functional tumors represented 65.1% of cases, with pheochromocytoma being most frequent (48.8%). Open adrenalectomy was performed in 88.4% of patients, primarily due to larger tumors, while laparoscopic surgery (11.6%) was reserved for smaller tumors (4.5 ± 1.2 cm) and was associated with shorter hospital stays (4 ± 1 days vs. 7 ± 2 days; $p < 0.001$). Malignancy was found in 16.3% of cases, all >6 cm. Complications occurred in 16.3%, and mortality was 2.3%.

Conclusion:
Open adrenalectomy remains predominant in Yemen due to late presentation and limited laparoscopic resources. Laparoscopic surgery offers clear benefits for smaller tumors. Enhancing laparoscopic training and infrastructure is essential to improve outcomes in similar settings. Further large-scale studies are recommended.

ISW26-492-08 (0612)

PHEOCHROMOCYTOMA "THE GREAT IMITATOR". A CASE REPORT

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Introduction:
Pheochromocytoma is a rare neuroendocrine tumor that originates in the chromaffin cells of the adrenal medulla, it´s a life-threatening disease characterized by a overproduction of catecholamines leading sustained or paroxysmal hypertension, headaches, sweating and palpitations. It occurs most frequently in individuals between 40 and 50 years old. Diagnosis requires biochemical tests (plasma metanephrines) and imaging (CT or MRI). Standard treatment is laparoscopic adrenalectomy, preceded by adrenergic blockade.

Material and Method:
We report the case of a 49-year-old female who presented with upper right quadrant abdominal pain. Her medical history was significant for hypertension and hypertensive heart disease. An abdominal CT scan revealed a right adrenal incidentaloma, and subsequent laboratory evaluations confirmed the diagnosis of pheochromocytoma associated with hyperaldosteronism.

Results:
Following appropriate preoperative medical management, the patient underwent a laparoscopic adrenalectomy. Intraoperatively, she experienced a hypertensive crisis, which was promptly and effectively managed without major complications. In the immediate postoperative period, her clinical course progressed favorably. The patient was discharged with corticosteroid replacement therapy and antihypertensive medication. At present, she remains asymptomatic and is under multidisciplinary follow-up with endocrinology, internal medicine, and general surgery.

Conclusion:
The objective of this case report is to describe an unusual presentation of adrenal pheochromocytoma in a patient with a history of refractory hypertension, who initially presented with symptoms suggestive of an acute abdomen. Additionally, this case highlights that laparoscopic resection is a safe and effective approach for the surgical management of pheochromocytoma.