



UNIVERSIDAD NACIONAL
AUTÓNOMA DE
MÉXICO

FACULTAD DE MEDICINA

**DIVISION DE ESTUDIOS DE POSGRADO E
INVESTIGACION**

**SUBDIVISION DE ESPECIALIZACIONES
MEDICAS**

OFICIO FMED/SEM/2019/2004

ASUNTO: Autorización del trabajo de investigación
del Dra. Andrea Olivia Dávila Cervantes.

**DR. ISIDRO AVILA MARTINEZ
SECRETARIO DE SERVICIOS ESCOLARES
DE LA FACULTAD DE MEDICINA
Presente.**

Estimado Dr. Avila Martínez:

Me permito informar a usted que el **Dra. Andrea Olivia Dávila Cervantes**, alumno del curso de especialización en **Cirugía General** en el **Instituto Nacional de Ciencias Médicas y de Nutrición "Salvador Zubirán"**, presenta el trabajo de investigación intitulado **"Surgical treatment of recurrent differentiated thyroid carcinoma"**.

De conformidad con el artículo 21 capítulo 5º. de las Normas Operativas del Plan Unico de Especializaciones Médicas (PUEM) se considera que cumple con los requisitos para validarlo como el trabajo formal de Investigación que le otorga el derecho de la diplomación como especialista.

Sin otro particular de momento, reciba un cordial saludo.

**Atentamente
"POR MI RAZA HABLARA EL ESPIRITU"
Cd. Universitaria, D. F. a 27 de septiembre de 2004**

JEFE DE LA SUBDIVISION

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Surgical treatment of recurrent differentiated thyroid carcinoma.

A. Dávila-Cervantes, R. Gamino, O. González and M. F. Herrera
Mexico City, Mexico
The European Journal of Surgery
July 2003 Vol. 168, Supplement 588

SISTEMA DE REGISTRO DE LA UNAM
DIVISIÓN DE REGISTRO Y CENSADO
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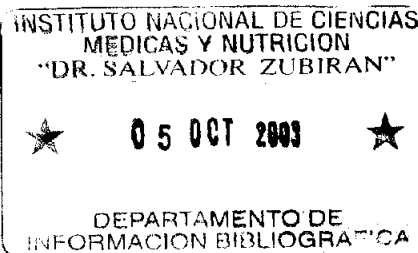
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Supplement 588
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CONTENTS

CONTENTS.....	1
---------------	---

ORIGINAL SCIENTIFIC REPORT

Major trauma with multiple injuries in Swedish children.....	3
<i>L. Franzén, P. Örtengren and T. Backteman</i> Gothenburg, Sweden 45 children were treated in a paediatric intensive care unit in 10 years and three died. The main causes were traffic crashes and falls and the main injuries were thoracic and abdominal.	

REVIEW ARTICLE

Damage control surgery for abdominal trauma.....	8
<i>M. M. Bashir and F. M. Abu-Zidan</i> Al-Ain, United Arab Emirates Damage control operation is the first stage in the treatment of a patient who is desperately ill as a result of intra-abdominal bleeding or faecal contamination. It requires the least possible intervention and probably not suturing the abdominal wall to prevent compartment syndrome.	

ORIGINAL SCIENTIFIC REPORTS

Surgical treatment of recurrent differentiated thyroid carcinoma.....	14
<i>A. Dávila-Cervantes, R. Gamino, O. González and M. F. Herrera</i> Mexico City, Mexico Even well-differentiated carcinoma of the thyroid can recur either in the remnant or in the local nodes, 20/273 patients operated on for low grade cancer recurred after a mean of 3 years, and further resection seems to have cured at least half of them.	

A randomised study comparing systemic transdermal treatment and local application of glyceryl trinitrate ointment in the management of chronic anal fissure	18
<i>T. Colak, T. Ipek, N. Urkaya, A. Kanik and M. Dirlik</i> Mersin, Turkey 88 patients with chronic anal fissures were randomised to have glyceryl trinitrate patches or local glyceryl trinitrate ointment. Both treatments gave good results in terms of reduction of anal pressure and healing of the fissure.	

Quality of life, morbidity, and mortality after surgical intensive care: a follow-up study of patients treated for abdominal sepsis in the surgical intensive care unit	23
<i>P. Haraldsen and R. Andersson</i> Lund, Sweden 49 patients were contacted a median of 6 years after discharge from the ICU. They claimed to have recovered completely, but the QoL score showed that they all had residual disabilities.	

Papillary microcarcinoma of the thyroid gland: analysis of prognostic factors including histological subtypes	28
<i>L. Falvo, C. D'Ercole, S. Sorrenti, V. D'Andrea, A. Catania, A. Berni, P. Grilli and E. De Antoni</i> Rome, Italy Microcarcinoma (less than 10 mm in size) has a good prognosis but should be treated by total thyroidectomy.	

SUBSCRIPTION

Surgical Treatment of Recurrent Differentiated Thyroid Carcinoma

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Eur J Surg 2002; Suppl 588: 14–17

ABSTRACT

Objective: To describe our experience of treating recurrent thyroid carcinoma.

Design: Retrospective study of casenotes.

Setting: Teaching hospital, Mexico.

Subjects: 20 patients who developed recurrences of 273 who presented with well-differentiated thyroid carcinoma between 1991 and 1999.

Main outcome measures: Presentation, management, morbidity, and mortality.

Results: There were 18 men and 2 women, median age 51 years (range 28–75). 13 were treated initially by total thyroidectomy and 7 with less than total resection. 16 were given ablative doses of ¹³¹I. The median time between initial resection and recurrence was 3 years (range 1–6). The sites of recurrence were cervical lymph nodes ($n = 12$), thyroid bed ($n = 3$), or both ($n = 5$). During a median of 3 years 10 patients were free of disease and 2 had died.

Conclusions: Well-differentiated thyroid cancer usually recurs in the cervical lymph nodes. Further resection offers a high cure rate.

Key words: thyroid, cancer, recurrence, thyroid carcinoma, papillary carcinoma, follicular carcinoma.

INTRODUCTION

Well-differentiated papillary and follicular thyroid carcinomas are the most common endocrine malignancies. They account for 1.1% of new malignant tumours in the United States (25). Well-differentiated cancer generally has a good prognosis. Treatment includes total or near total thyroidectomy, generally followed by ¹³¹I ablation and suppression of thyroid stimulating hormone (TSH). With this treatment strategy, the 5-year survival exceeds 90% (24).

Papillary and follicular carcinoma have an overall recurrence rate of 15% (4, 8), and recurrent thyroid cancer is aggressive. Mortality among patients who develop recurrences is as high as 50% (11, 18, 20). Tumours can recur in the thyroid bed, the regional lymph nodes, or in distant organs, the lung being the most common. The ideal treatment of recurrent thyroid cancer has not yet been established, but the main therapeutic options include reoperation and ¹³¹I ablation of the tumour. The aim of the present study was to analyse the clinical characteristics, treatment, morbidity, and mortality of a series of patients with recurrent differentiated thyroid carcinoma.

PATIENTS AND METHODS

From a total of 457 thyroidectomies done at our hospital from 1991 to 1999, the diagnosis of a well-differentiated thyroid carcinoma was established in 273. All patients were carefully followed up after the initial treatment by clinical endocrinologists using a specific protocol.

Total thyroidectomy is our first operation of choice. Nodes are sampled when only one or two are macroscopically enlarged; if there is extensive lymph node enlargement a modified radical lymph node dissection is done. Total ablation of remnant tissue with a therapeutic dose of ¹³¹I that varies from 1.8×10^9 to 9.2×10^9 Bq is given routinely to all patients postoperatively. Postoperative scans were not used to detect remaining uptake before ¹³¹I ablation. A body scan was done after the ablative dose, and TSH suppression was instituted to maintain TSH values <0.05 mU/L. One year postoperatively all patients were evaluated to assess their hormonal status as well as serum thyroglobulin concentration. They also had a total body scan to look for recurrent disease. If two consecutive yearly scans were negative and thyroglobulin concentration was low or undetectable, follow-up was continued by annual measurements of thyroglo-

bulin. If the values were raised a body scan was obtained.

During the follow-up period a total of 15 patients were subsequently referred to our department for surgical treatment of recurrent disease. These 15 and 5 additional patients who were initially treated at another hospital and were referred for treatment of recurrent disease were included in the study, giving a final group of 20 patients. In none of the patients who were initially treated at our hospital was local remnants suspected. Patients with evidence of a small recurrent tumour in the thyroid bed or minimal lymph node enlargement were selected to be given a therapeutic dose of ^{131}I , and patients with gross evidence of recurrence were reoperated on. In patients with persisting clinical evidence of recurrence, were also offered operation. For the cervical reexploration, the same principles used for the initial cervical exploration were applied. Recurrence in the thyroid bed was treated by local excision. The tumour was shaved from the trachea or larynx or both if there was local invasion, and lymph node metastases were treated by sampling when only 1 or 2 lymph nodes were macroscopically enlarged and by a modified radical lymph node dissection if there was extensive lymph node enlargement. Patients were given an additional postoperative ablative dose of ^{131}I that ranged from 1.8×10^9 – 9.2×10^9 Bq. TSH suppression was reinitiated to maintain TSH values <0.05 mU/L.

Medical records of the 20 patients were reviewed for details of the initial treatment, presentation and treatment of the recurrence, morbidity and mortality.

RESULTS

The median age of the two men and 18 women at the time of recurrence was 51 years (range 28–75). Papillary cancer was diagnosed in 17 patients and follicular in three. Variants of papillary cancer included six tall cell tumours and one with epidermoid differentiation. Among the three follicular tumours one was a Hürthle cell carcinoma. The initial operation in patients with papillary carcinoma was total thyroidectomy in 13 and near-total thyroidectomy in seven. Some lymph nodes were also resected in 10 patients. Six had enlarged lymph nodes sampled, two had complete lymph node dissection of the central compartment, and two had modified lymph node dissection of the lateral compartment. Sixteen patients were also given postoperative ablation with ^{131}I (mean dose 7.4×10^9 Bq (range 4.07–18.5)). Suppressive hormone treatment was given to all patients.

Prognostic score using the age, metastases, extent, and size (AMES) classification in the 15 patients who were initially treated at our hospital showed that they

Table I. Number of patients with recurrent disease, and its site

Site	Total No.	Free of disease* after reoperation
Thyroid bed	3	1
Lymph nodes	12	8
Both	5	1

* Thyroglobulin <1 ng/ml ^{131}I body scan negative.

had all presented with high-risk tumours. Using our own prognostic system for local recurrence (9) we found that 11/13 patients had the combination of age >40 years, tumour size >3 cm, extrathyroidal extension of the primary tumour and lymph node metastases; the remaining 4 patients had at least one of these factors.

The median time between the initial operation and recurrence was 3 years (range 1–26). Table I shows the main sites of recurrence. ^{131}I in a mean dose of 8.1×10^9 Bq (range 5.5–11.0) was given to 15 patients as initial treatment of the recurrence with no response. Treatment with ablative doses of ^{131}I after the initial operation was routine, but not all patients were given ablative doses because five were referred from other hospitals. All 20 patients had a second operation.

The 3 patients in whom the recurrence was localised to the thyroid bed had it removed together with shaving of the larynx and trachea. Six of the 12 patients with lymph node recurrences had the nodes sampled. The remaining six had a modified radical lymph node dissection. Of the group of patients in whom recurrence involved both the thyroid bed and the lymph nodes, two had the tumours resected together with shaving of the larynx and trachea and sampling of the lymph nodes and 3 had it removed together with tracheal and laryngeal shaving and a modified radical lymph node dissection. There was no operative mortality and there were no cases of persistent hypoparathyroidism or symptomatic recurrent laryngeal nerve palsy.

Ablation of the remnant with ^{131}I was given after reoperation to 10 patients with persistent disease and to five patients with no evidence of disease. The mean dose of ^{131}I was 16.6×10^9 μBq (range 7.3–25.8).

Cure, defined as a thyroglobulin concentration of <1 ng/ml and clear ^{131}I body scan, was achieved after reoperation in 10 patients. Eight had isolated recurrences in the lymph nodes, one had a selective recurrence in the thyroid bed and one presented with a combination of both. Four of these patients had had lymph nodes sampled, and the remaining six had had modified radical dissection. Seven patients had a body scan after suspension of thyroid hormone suppression. The mean TSH value at the time of the scan was

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Submitted August 2, 2001; submitted after revision December 9, 2002; accepted December 12, 2002

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