

La chirurgia della tiroide (S.Singarelli)



Tiroidectomia in Italia

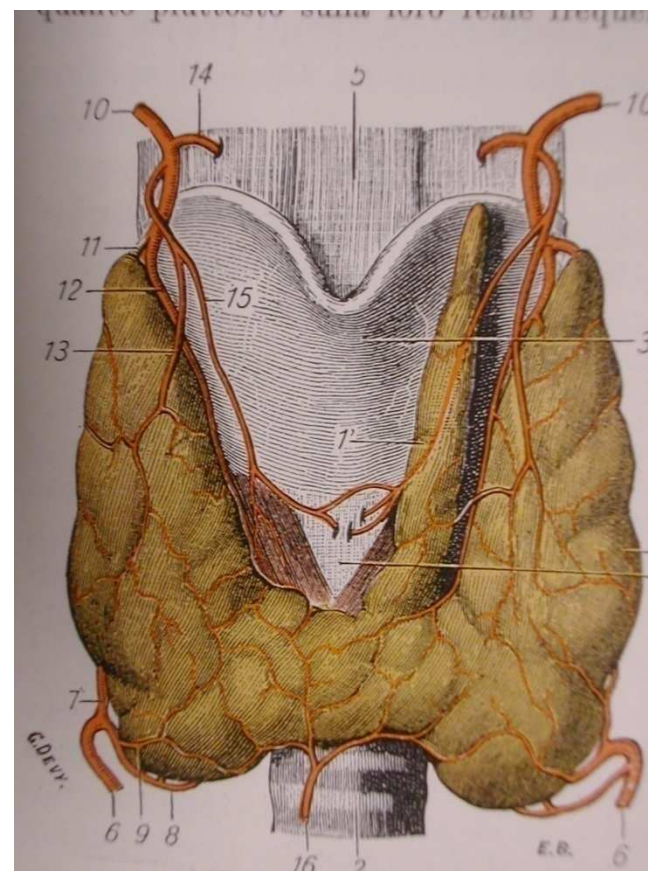
Sono circa 40.000
l'anno gli interventi di
tiroidectomia in Italia



INTERVENTI SULLA TIROIDE



- Tiroidectomia totale
- Lobectomia
- Istmectomia
- *Enucleazione*
- *Subtotale*



Il gozzo

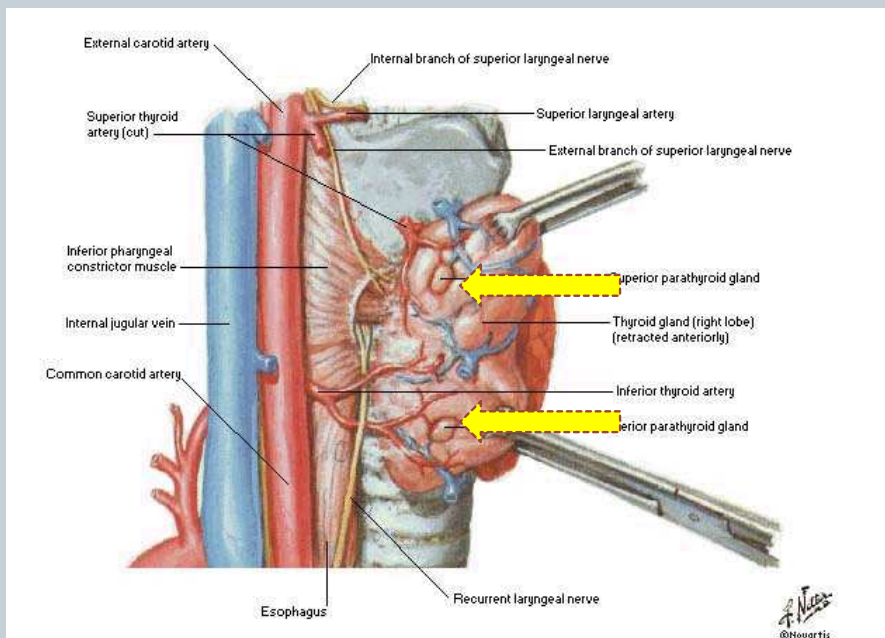


Problematiche della chirurgia tiroidea

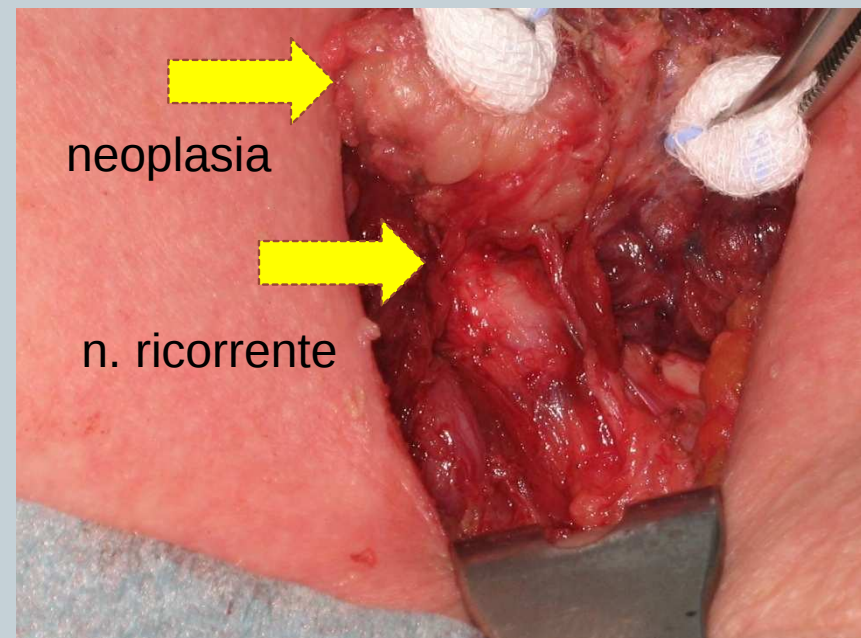


- Chirurgia complicata dai rapporti anatomici e dalla patologia
- Incompleta asportazione della ghiandola con patologia residua lasciata in sede
- Emorragie
- Ipoparatiroidismo
- Lesioni nervose (nervo ricorrente e laringeo superiore)

Sino agli anni '90 la focalizzazione nella chirurgia tiroidea era indirizzata a limitare le complicazioni paratiroidee e ricorrentziali



Le paratiroidi



N. ricorrente

La cicatrice nella chirurgia tiroidea



Gli anni '80, la svolta nella diagnostica delle malattie tiroidee: ecografia e FNAB



- Ecografia: mappatura delle lesioni tiroidee con semeiotica sempre più precisa associata a dati funzionali
- FNAB significatività elevata per diagnosi di malignità

Ultrasound of thyroid, parathyroid glands and neck lymph nodes



Size: according to this parameter, all nodules exceeding 1.0 cm in maximum diameter should be punctured, irrespective of physical and sonographic features, whereas lesions under 1.0 cm should be only followed on time.

Luigi Solbiati
Valeria Osti
Luca Cova
Massimo Tonolini

Eur. Radiol. (2001) 11: 2411-2424
DOI 10.1007/s00330-001-1163-7



- ...FNAB è l'esame più sensibile e specifico tra tutti gli esami per la diagnosi ..gli altri esami sono l'ecografia e la scintigrafia
- **The Thyroid Nodule**
 - ❑ [ANDRÉ J. VAN HERLE](#), M.D.;
 - ❑ [PHILIP RICH](#), M.D.;
 - ❑ [BRITT-MARIE E. LJUNG](#), M.D.;
 - ❑ [MICHAEL W. ASHCRAFT](#), M.D.;
 - ❑ [DAVID H. SOLOMON](#), M.D.; and
 - ❑ [EMMETT B. KEELER](#), Ph.D.
- Ann Intern Med February 1, **1982** 96:221-232

Anni '90: la svolta nella chirurgia tiroidea



Miccoli P, Berti P, Conte M, et al.

Minimally invasive surgery for thyroid small nodules:
preliminary report. J Endocrinol Invest 1999;22:849 –51.

Miccoli P, Berti P, Raffaelli M, et al.

Minimally invasive videoassisted thyroidectomy.
Am J Surg 2001;181:567–70

Chirurgia della tiroide



- La cicatrice
- Le complicazioni:
 - Nervi ricorrenti
 - Paratiroide
 - Nervo laringeo superiore
- I costi

MIVAT(minimally invasive videoassisted thyroidectomy)



**Comparison between minimally invasive
video-assisted thyroidectomy
and conventional thyroidectomy: a
prospective randomized study**

Miccoli P, Berti P, Raffaelli M, Materazzi G, Basdacci
S, Rossi G. Surgery 2001 ; 130 : 1039-43

COMMENTARY

Advanced approaches for thyroid surgery

Ronald B. Koppersmith, MD, MBA, Ahmed Salem, MD and
F. Christopher Holsinger, MD, College Station and Houston, TX

At this time, the primary aim of these "minimally invasive" thyroid surgeries is to obtain **improved cosmetic results without increasing the risk of complications**.....recurrent laryngeal nerves and parathyroids.

Robotic Axillary Thyroidectomy: Multi-Institutional Clinical Experience with the daVinci

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Introduction

Progress in remote access thyroid surgery has become limited by technological and instrumentation constraints. Implementation of robotic technology (daVinci) was a natural solution to the challenges posed by the confined space of the central compartment. We sought to describe our early experience with this approach.

Methods

Demographic and surgical data were obtained and analyzed with attention to age, gender, pathology, surgical times and complications.

SURGICAL TECHNIQUE

The arm ipsilateral to the thyroid lobe was rotated 180° and adequately protected. A 6-8 cm incision was then made in the anterior axillary line (Figure 1). This incision was used to introduce the endoscope and surgical instruments. A second 1 cm pre-sternal incision was made to introduce additional instrumentation.



Figure 1. Patient positioning and landmarks for the incision of the axillary fold (Illustration by Kate Sumell in Atlas of Head and Neck Surgery, James Cohen and Gary L. Clayman, eds. Philadelphia: Saunders, forthcoming March, 2010).

Methods (cont'd)

An operative space above the pectoralis muscle and between the sternal and clavicular heads of the sternocleidomastoid muscle (SCM) was delineated (Figure 2).



Figure 2. Intra-operative approach across the chest wall.

A retractor was suspended beneath the sternal head of the SCM and strap muscles. The daVinci Surgical System was docked and the instruments introduced (Figure 3).



Figure 3. Instrument placement.
Arm 1: Maryland Grasper, Camera: 30-degree endoscope,
Arm 2: Harmonic Shear, Arm 3: ProGrasp.

The thyroid lobe was then removed through the axilla with care to preserve the parathyroids and recurrent laryngeal nerve (Figure 4). In cases of total thyroidectomy, the contralateral thyroid lobe was removed by first dividing the superior pole vessels, and then identifying the recurrent laryngeal nerve using a subcapsular dissection. A closed suction drain was placed at the end of the procedure.



Figure 4. Identification of the recurrent laryngeal nerve (RLN), cricothyroid muscle (CT), and inferior parathyroid (IP). The thyroid lobe (Thy) is resected.

Results

Eight consecutive thyroidectomies were accomplished using the daVinci robotic system through an axillary approach (with a small presternal portal). There were 6 females and 2 males, and the mean age was 48.4 ± 12.1 years. Seven were hemithyroidectomies and one was a total thyroidectomy; all had benign pathology.

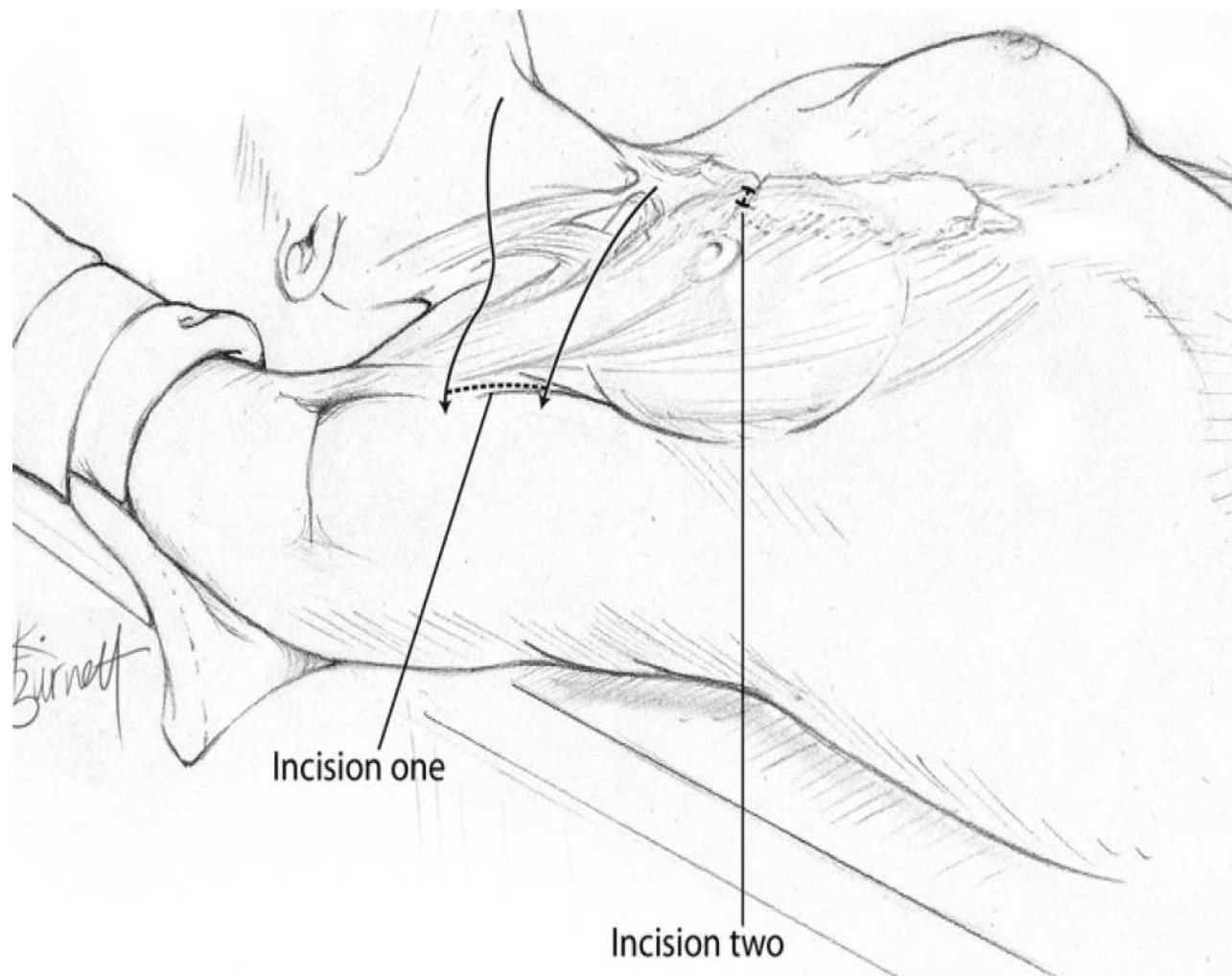
One obese patient suffered small pulmonary emboli which were treated without sequelae. There were no laryngeal nerve injuries, hypoparathyroidism, or other complications. All procedures were performed without need for conversion to an open surgical procedure.

Conclusion

Robotic axillary thyroidectomy has proven to be feasible in this small series of patients. Further study is justified to confirm the safety and to determine the appropriate role of this procedure in patients with thyroid disease.

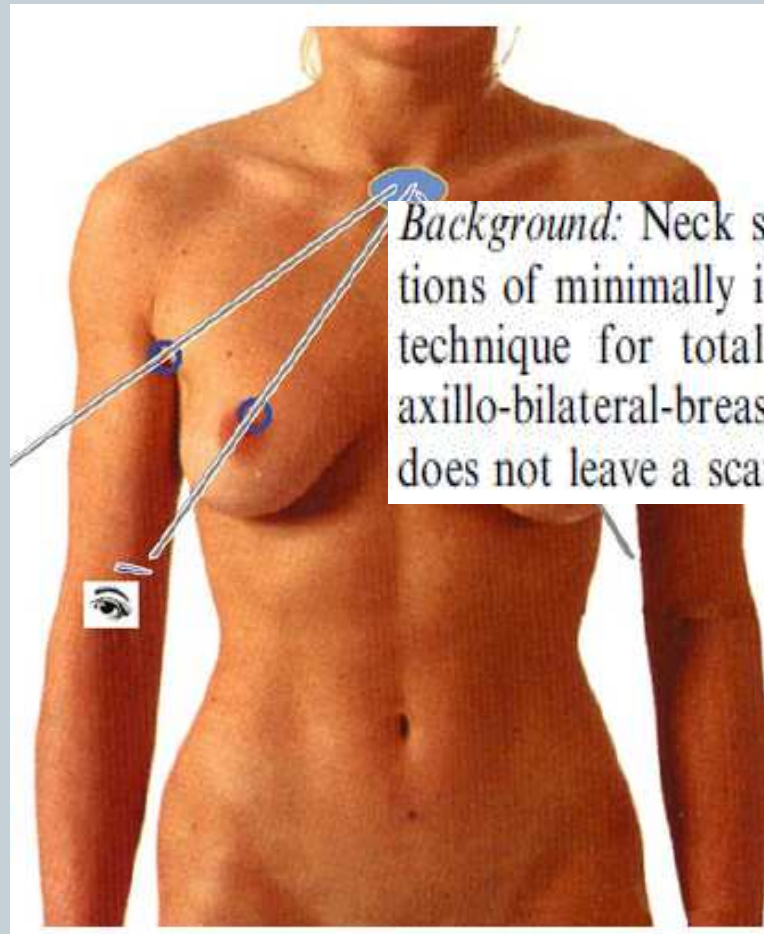
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- Holsinger FC, Terris DJ, Koppersmith RB. Robotic Thyroidectomy: Operative Technique using a Transaxillary Endoscopic Approach without CO₂ Insufflation. Otolaryngologic Clinics of North America. (In press)
- Kang SW, Jeong JJ, Yun JB, et al. Robot-assisted endoscopic surgery for thyroid cancer: experience with the first 100 patients. Surg Endosc 2009.

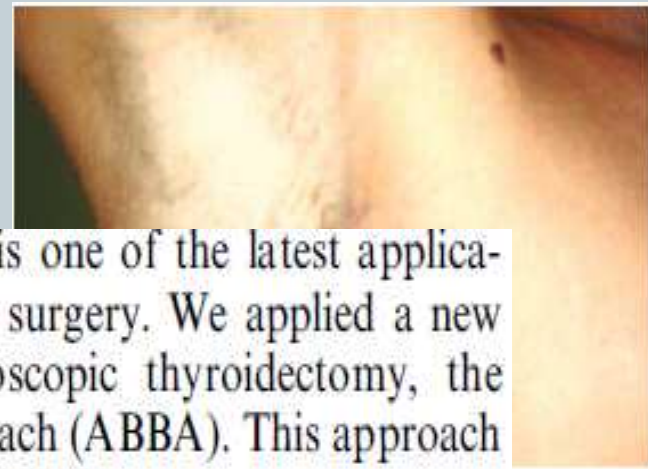


Cervical scarless endoscopic thyroidectomy: Axillo-bilateral-breast approach (ABBA)

Eckhard Bärlehner, Tahar Benhidjeb



Background: Neck surgery is one of the latest applications of minimally invasive surgery. We applied a new technique for totally endoscopic thyroidectomy, the axillo-bilateral-breast approach (ABBA). This approach does not leave a scar on the neck.



La tiroidectomia senza cicatrici nel collo, **ma** nella regione ascellare e mammaria

- Although the potential limitations of a greater operative time and greater costs exist, the main drive for oncoplastic thyroid surgery, including robotic thyroidectomy, is **the cosmetic outcome.**

Outcomes of 109 patients with papillary thyroid carcinoma who underwent robotic total thyroidectomy with central node dissection via the bilateral axillo-breast approach

Kyu Eun Lee, MD,^a Do Hoon Koo, MD,^b Sujin Kim, MD,^a Jeonghun Lee, MD,^a
Kyoung Sik Park, MD,^c Seung Keun Oh, MD,^a and Yeo-Kyu Youn, MD,^a Seoul and Koyang, Korea



Tiroidectomia transorale endoscopica: nessuna cicatrice



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L'evoluzione dell'approccio mini invasivo



L'accesso trans ascellare eventualmente robotico e la possibilità di un accesso attraverso gli orifizi naturali sono le ultime frontiere di questa chirurgia e lo sviluppo estremo di quell'approccio mini invasivo video endoscopico iniziato negli anni 90 ed indirizzato a tiroidi di piccolo volume nelle quali la patologia era identificata grazie ad una precisa accuratezza diagnostica ecografica.

Section 2. Thyroid

Direct mini-incision thyroidectomy



Yoshifumi Ikeda *, Hiroshi Takami, Gengo Tajima, Yuzo Sasaki, Junichi Takayama, Hideko Kurihara, Masanori Niimi

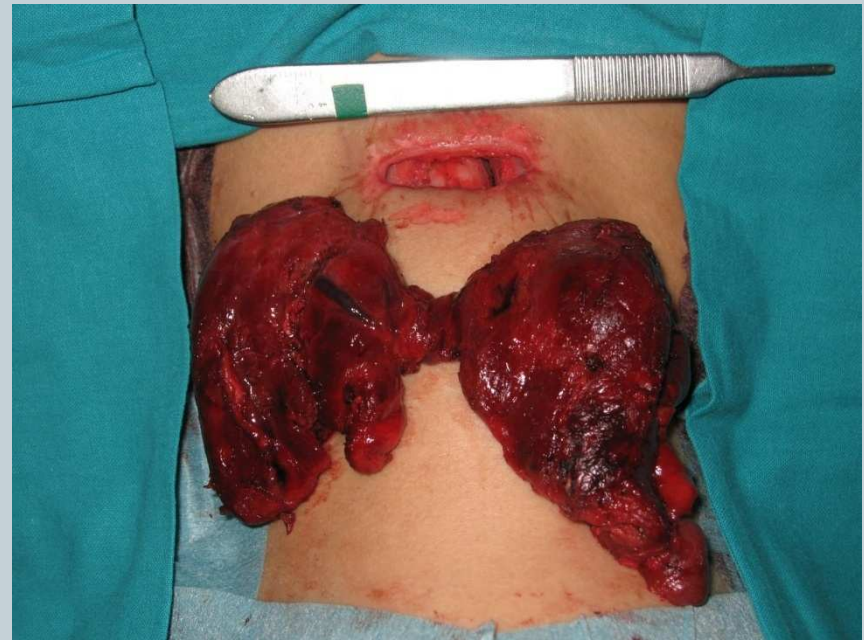
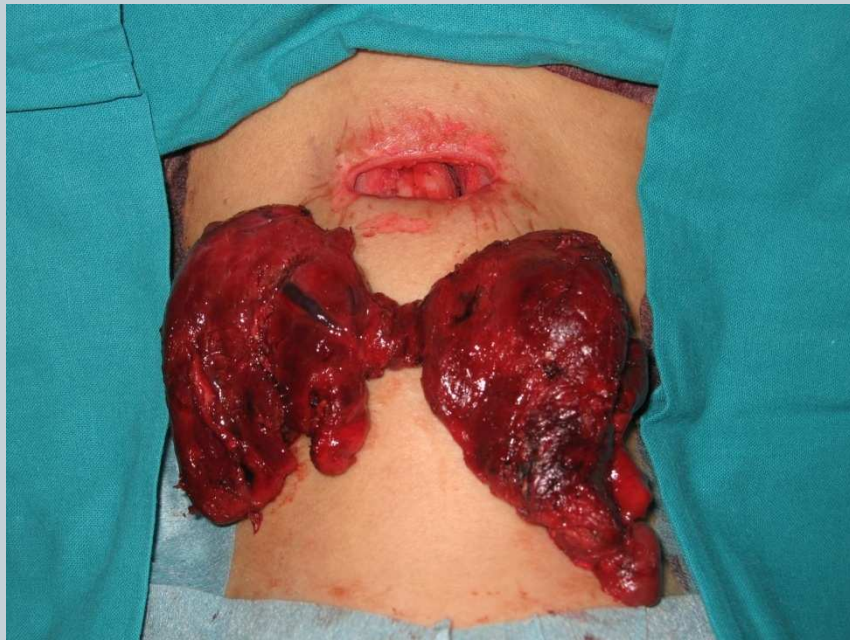


Biomed Pharmacother 56 (2002) 60s–63s

Cicatrizzazione dopo tiroidectomia con mini incisione



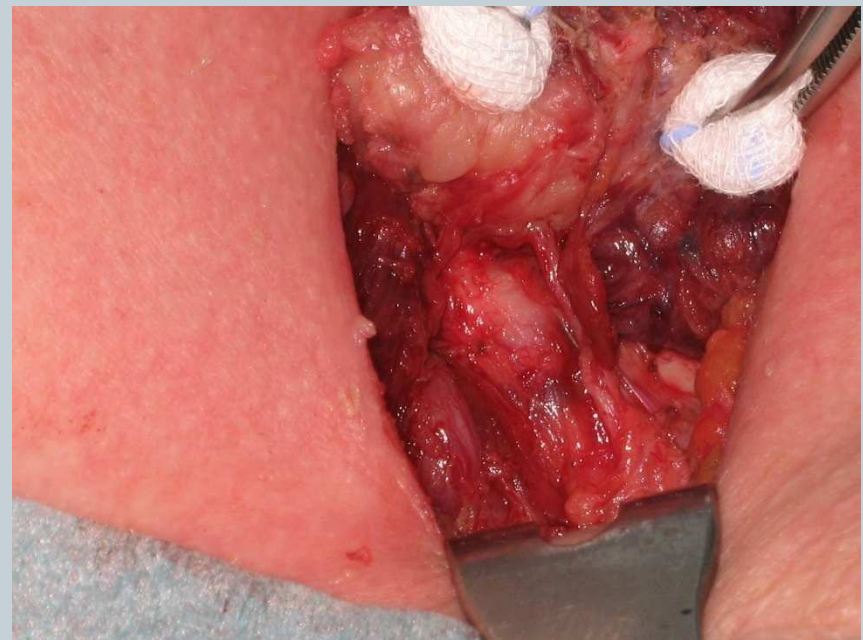
Tiroidectomia- mini incisione I



Tiroidectomia- mini incisione II



Tiroidectomia- mini incisione III



Le complicazioni da tiroidectomia nella nostra casistica (980 tiroidectomie dal 1990 al 2010)



Complicazioni relative a 409 casi selezionati casualmente:

- ✦ **Emorragie** (nessun evento drammatico)
 - 5/409 1,2%
- ✦ **Ipoparatiroidismi**
 - Transitori 80/409 20%
 - Permanenti 1/409
- ✦ **Paralisi ricorrentziali**
 - 28 casi su 409 interventi, di cui 2 definitive

