



Chirurgia linfonodale nei carcinomi cervico-facciali

La presenza di N+ è uno dei fattori prognostici più rilevanti nei carcinomi cervico-facciali



Sopravvivenza < 50%

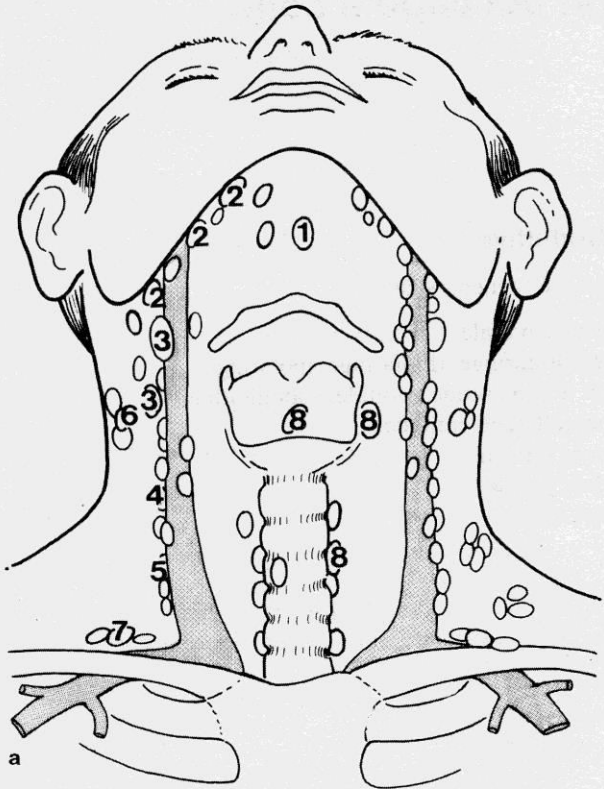
- L'incidenza di adenopatie latero-cervicali è in rapporto sia con la localizzazione tumorale che con le sue caratteristiche biologiche

- In ogni caso, indipendentemente dallo stadio tumorale, alcune localizzazioni neoplastiche H & N mostrano un indice di metastatizzazione molto superiore ad altre

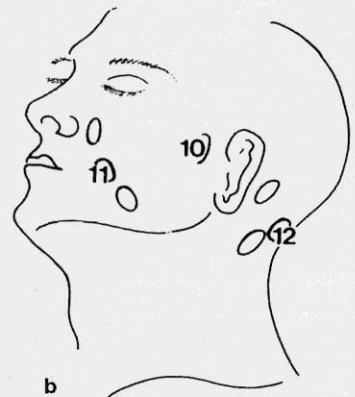
Ogni programmazione terapeutica dei carcinomi cervico-facciali non può prescindere da una precisa valutazione dello stato linfonodale, oltre che dello stadio e della sede tumorale

Se non esistono oggi più dubbi sulla necessità di trattare chirurgicamente le adenopatie cliniche in uno con il tumore primitivo, sono di contro ancora presenti dubbi su quale debba essere la strategia terapeutica più adeguata in assenza di adenopatie clinicamente accertate

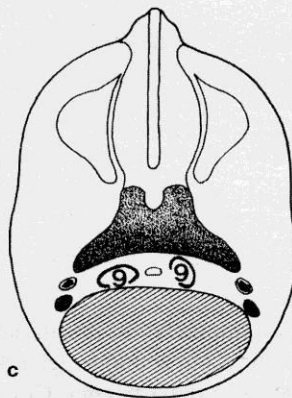
Linfonodi del collo



a

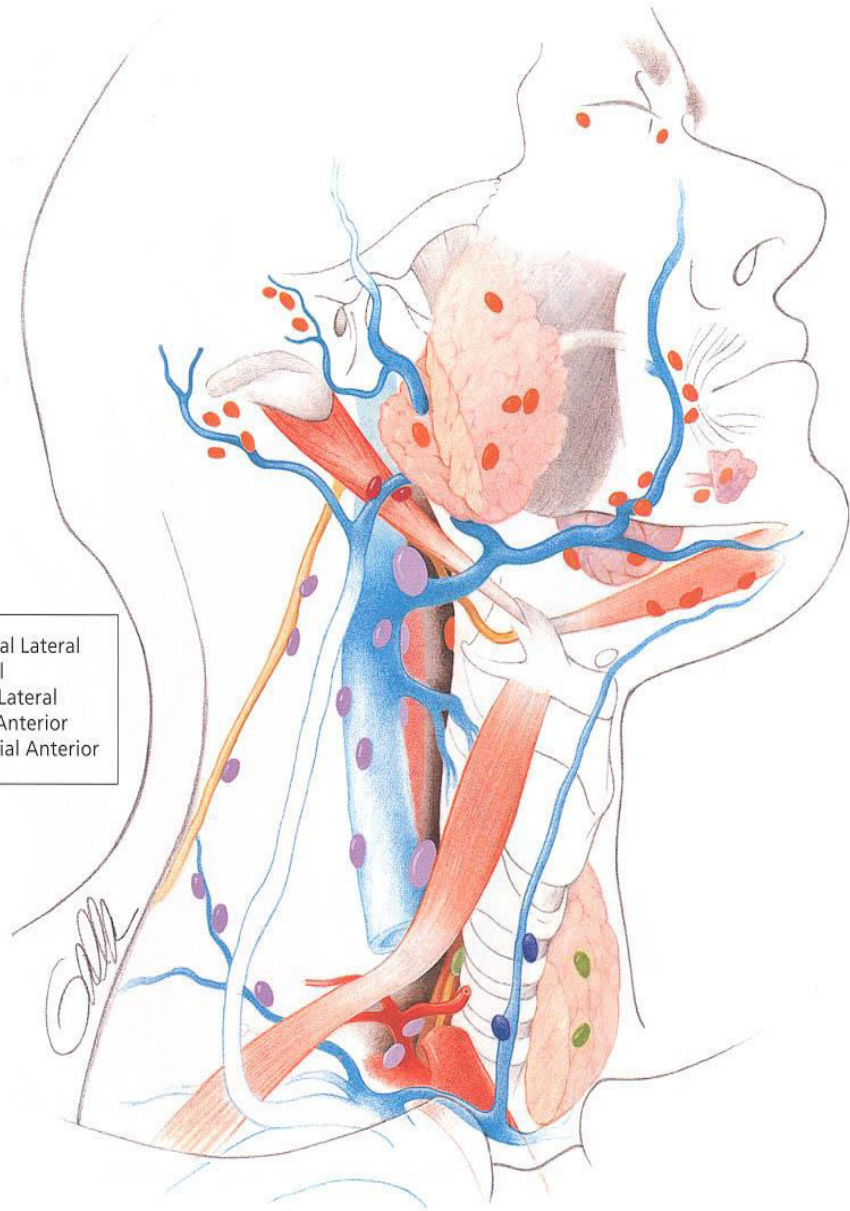


b



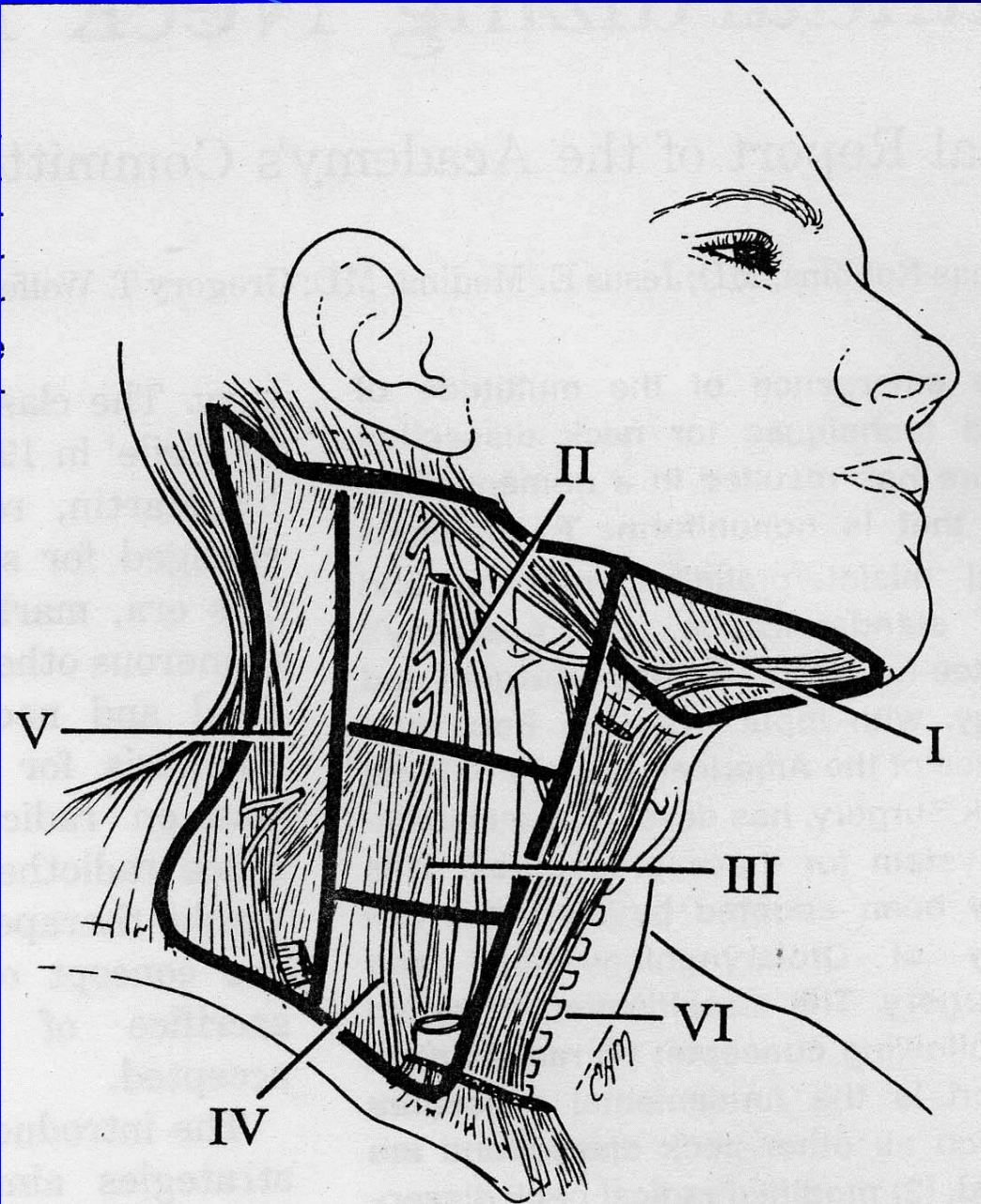
c

Red - Superficial Lateral
Orange - Facial
Purple - Deep Lateral
Green - Deep Anterior
Blue - Superficial Anterior

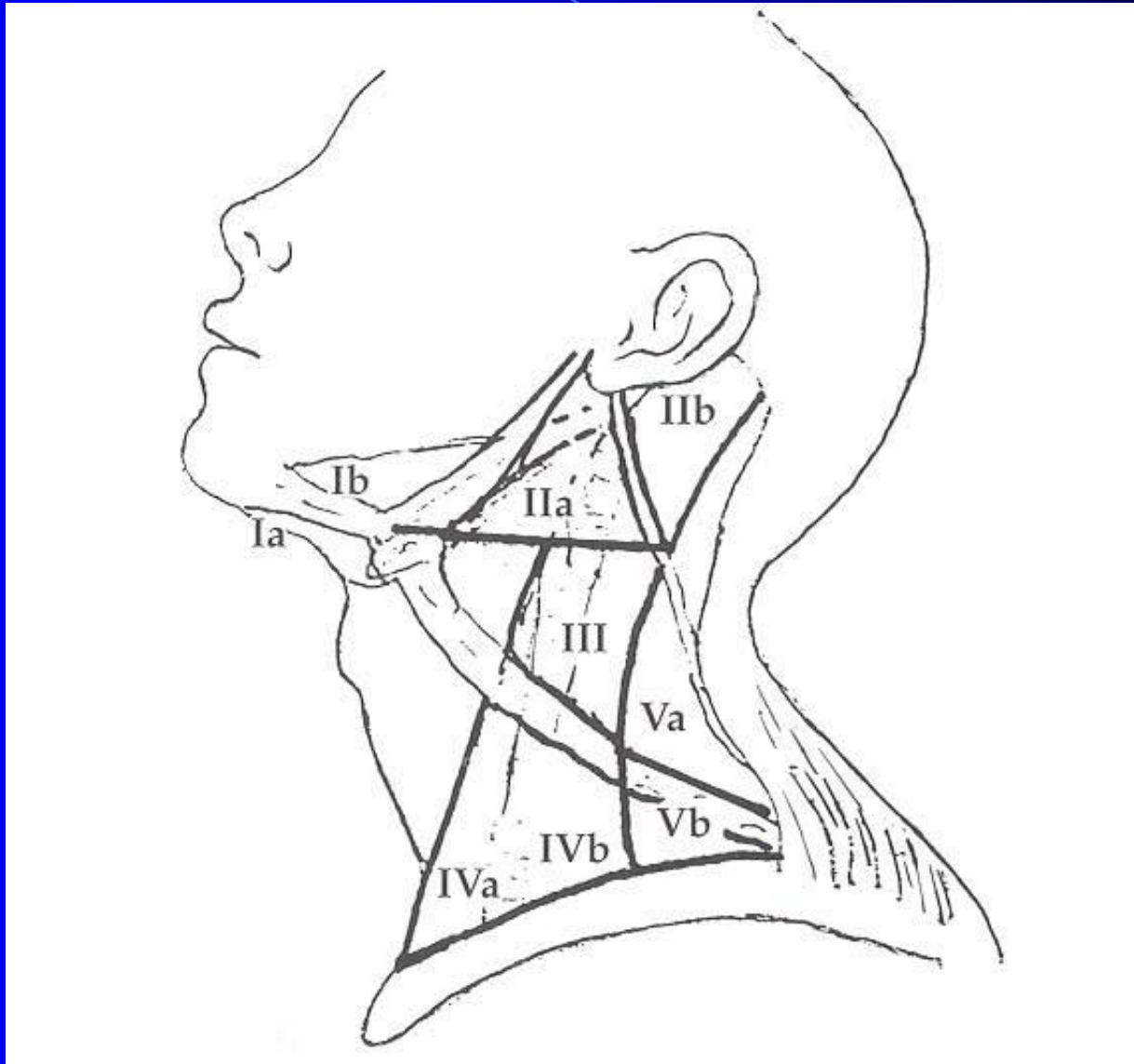


A

Livelli linfonodali

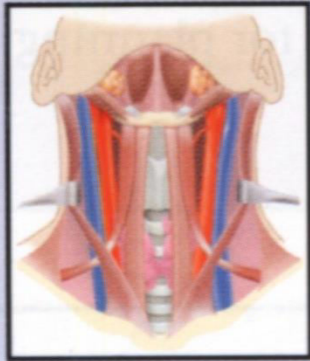


Subzones of Levels I-V



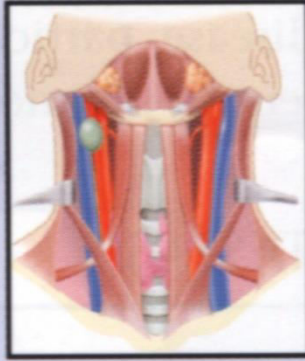
Staging of the Neck

N₀



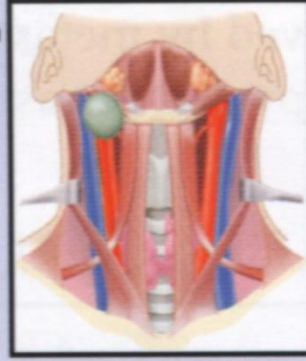
No nodes

N₁



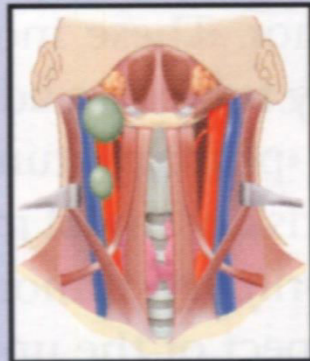
Ipsilateral
<3 cm

N_{2a}



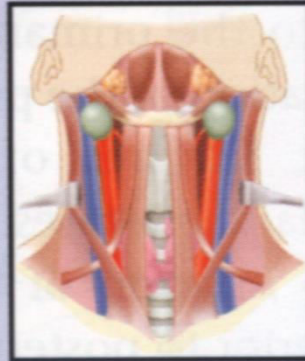
Ipsilateral
>3 cm <6 cm

N_{2b}



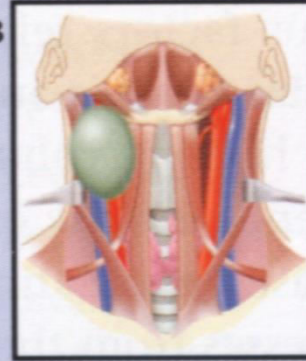
Ipsilateral multiple
<6 cm

N_{2c}



Bilateral/contralateral
<6 cm

N₃



>6 cm

- Billroth 1873 **selective neck dissection**
- Langenbeck 1875
- Kocker 1880
- Butlin 1885

- Yawdyski 1888 **radical neck dissection**
(Gazeta Lekarska)
- Crile 1906 (1905)
(transactions of the Southern Surgical & Gynecological association)
- Suarez 1963 **functional neck dissection**

- Calero-Teatini 1976

Nomenclature

- Radical neck dissection = removing all 5 major deep node groups
- Selective dissection = removing less than all 5 major lymphnode groups

Subcommittee for Head and Neck Dissection Terminology
1991, 2001, 2008

Classification of Neck Dissections

Comprehensive neck dissection

Classical radical neck dissection (RND)

Extended radical neck dissection (END)

Modified radical neck dissection (MRND)

Type I: spinal nerve

Type II: spinal nerve and SCM

Type III: spinal nerve, SCM & IJV

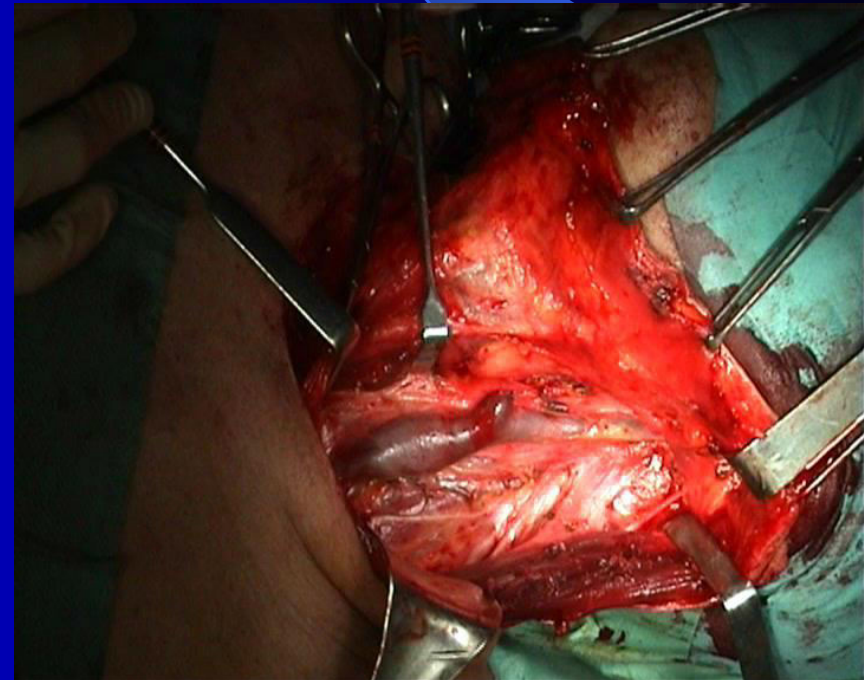
Selective neck dissection (SND)

Supra-omohyoid type (I-III)

Lateral type (II-IV)

Posterolateral type (II-V)

Central compartment type (VI)



Svuotamento radicale

- ⇒ Livelli linfonodali I, II, III, IV e V**
- ⇒ Sacrificio m. sternocleidomastoideo**
- ⇒ Sacrificio vena giugulare interna**
- ⇒ Sacrificio nervo accessorio spinale**

Svuotamento funzionale

Modified radical neck dissection (type III)

- ⇒ Livelli linfonodali II, III, IV e V
- ⇒ Conservazione m. sternocleidomastoideo
- ⇒ Conservazione vena giugulare interna
- ⇒ Conservazione nervo accessorio spinale

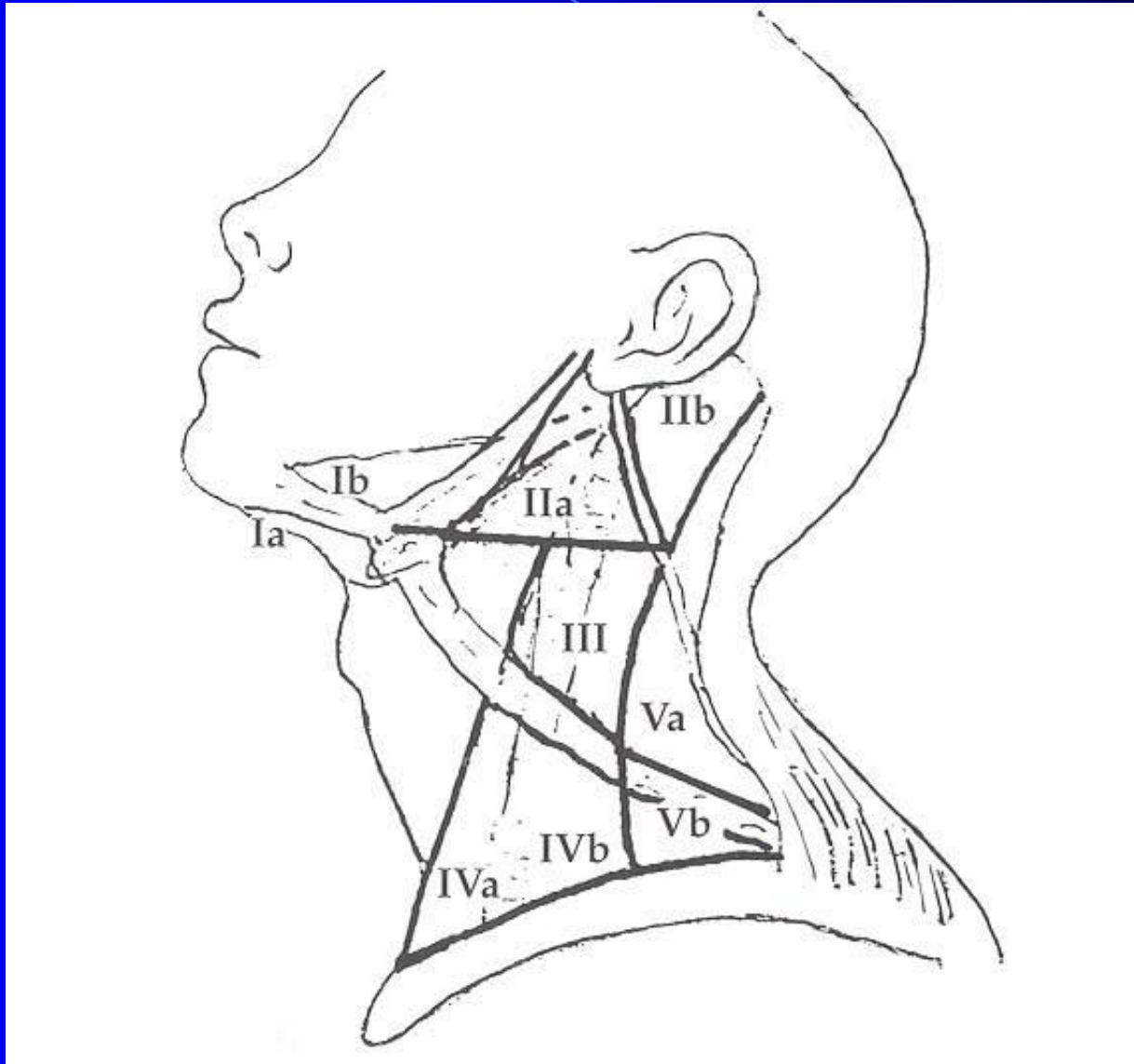
Svuotamenti selettivi

⇒ **Svuotamento sovraomioideo**: livelli I, II e III

⇒ **Svuotamento laterale**: livelli II, III e IV

⇒ **Svuotamento anteriore**: livello VI bilaterale

Subzones of Levels I-V



Rationale for subzones

- Suggested by Suen and Goepfert (1997)
- Biologic significance for lymphatic drainage depending on site of tumor
 - Level I subzones
 - Lower lip, FOM, ventral tongue – Ia
 - Other oral cavity subsites – Ib, II, and III

Rationale for Subzones

– Level II subzones

- Oropharynx and nasopharynx – IIb
 - XI should be mobilized
- Oral cavity, larynx and hypopharynx – may not be necessary to dissect IIb if level IIa is not involved

– Level IV subzones

- Level IVa nodes – increased risk in Level VI
- Level IVb nodes – increased risk in Level V

Rationale for Subzones

– Level V subzones

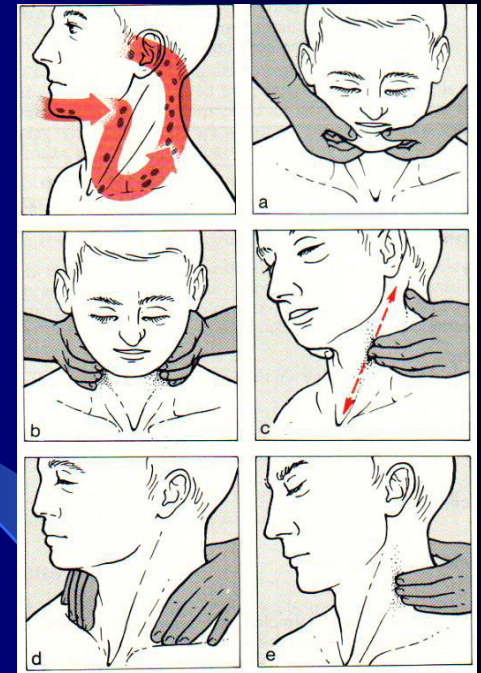
- Oropharynx, nasopharynx, and cutaneous – Va
- Thyroid - Vb

Diagnosis

Clinical inspection

- Inspection
- Palpation

Sensitivity: 16-66%
(29% in N0-N1)



➤ Imaging

Ultrasound
CT
RNM
PET
FNAC

sensitivity

77 %
78 %
67 %
94 %
60 %

specificity

80 %
85 %
68 %
78 %
100 %



high rate of false negative results

Diagnosis

The role of PET-TC

sensitivity

67%

specificity

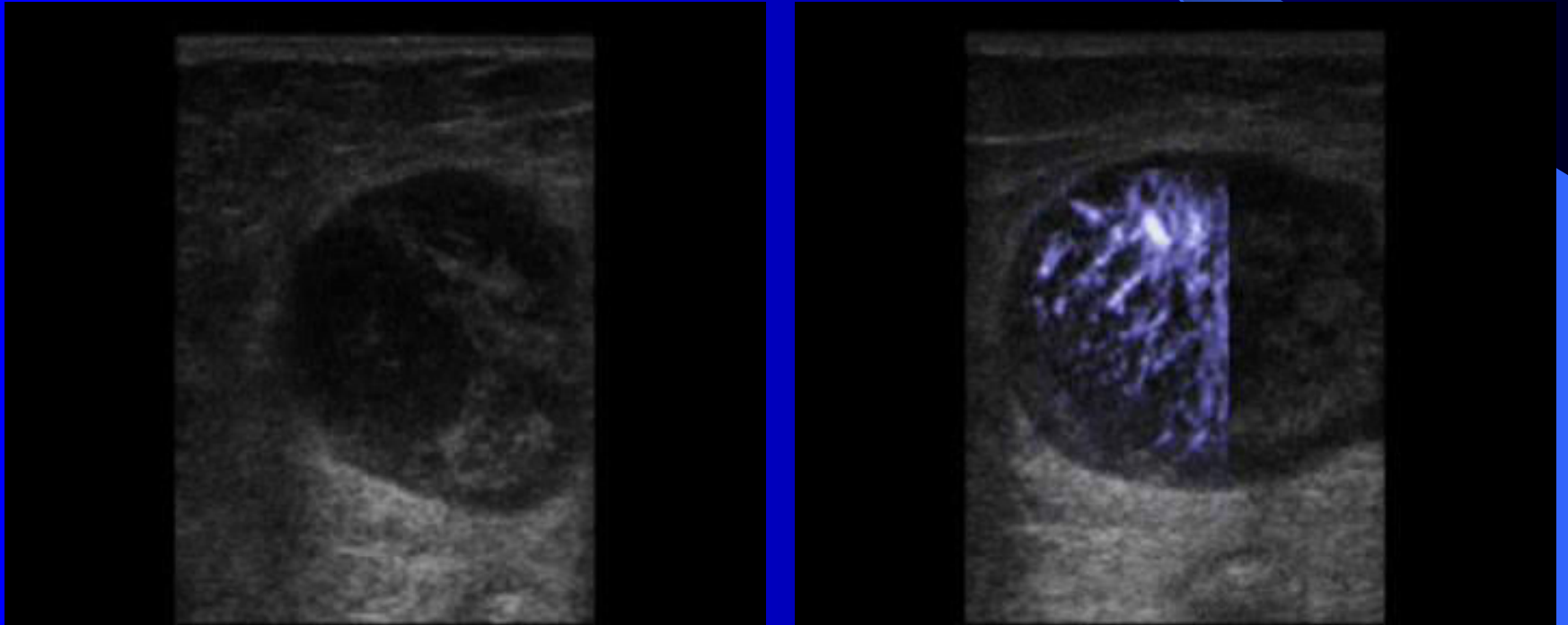
85%

- No advantages in staging
- Can be recommended in follow-up:
 - Distant metastases
 - Residual disease after integrated treatment

Schoder H et al, *J Nucl Med*, 2006

Shintani SA et al, *Int J Radiat Oncol Biol Phys*, 2007

Diagnosis



New technology of Ultrasonography



Neck metastases

Gold standard

Best diagnosis with a little risk and invasiveness


Accuracy of all techniques  85-95%

Imaging >> Clinical palpation 

Personal exp.

CT scan for T and N & US

Decisional guidelines

- Diagnostic accuracy
- N presence at diagnosis 
- Cancer site and lymphatic drainage
- Neck dissection type decision

Lymphatic metastasis

% of N+ at the moment of diagnosis

Nasopharynx 86%

Hypopharynx 70%

Oropharynx 60%

Oral cavity 55%

Supraglottic larynx 50%

Glottic larynx <10%

Nose and sinuses <10%

Lymphatic drainage

1119 RNDs

Oral cavity / Oropharynx
Hypopharynx

Level I, II, III



Supraomohyoid dissection

Larynx,

Level II, III, IV



Lateral dissection

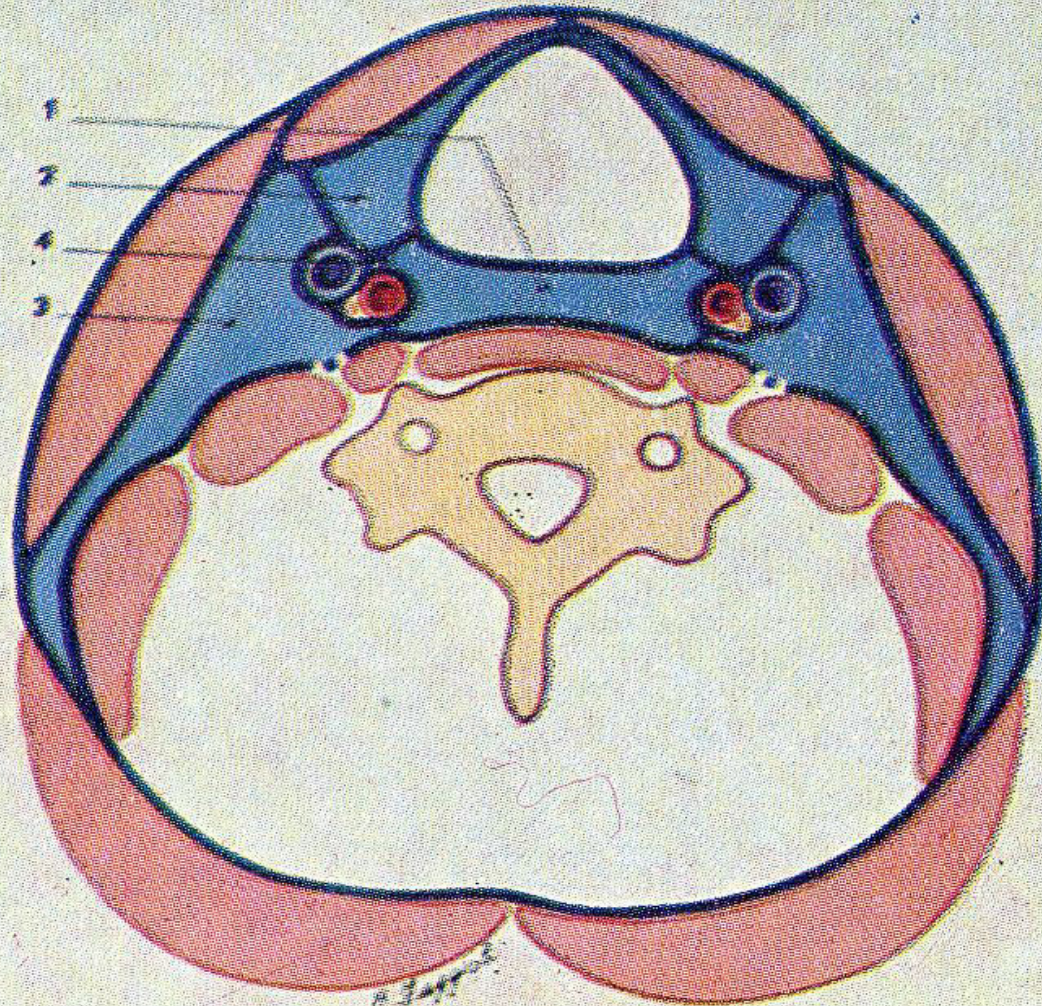
Occult metastases: 33 %

Level V not involved: 3-5 %

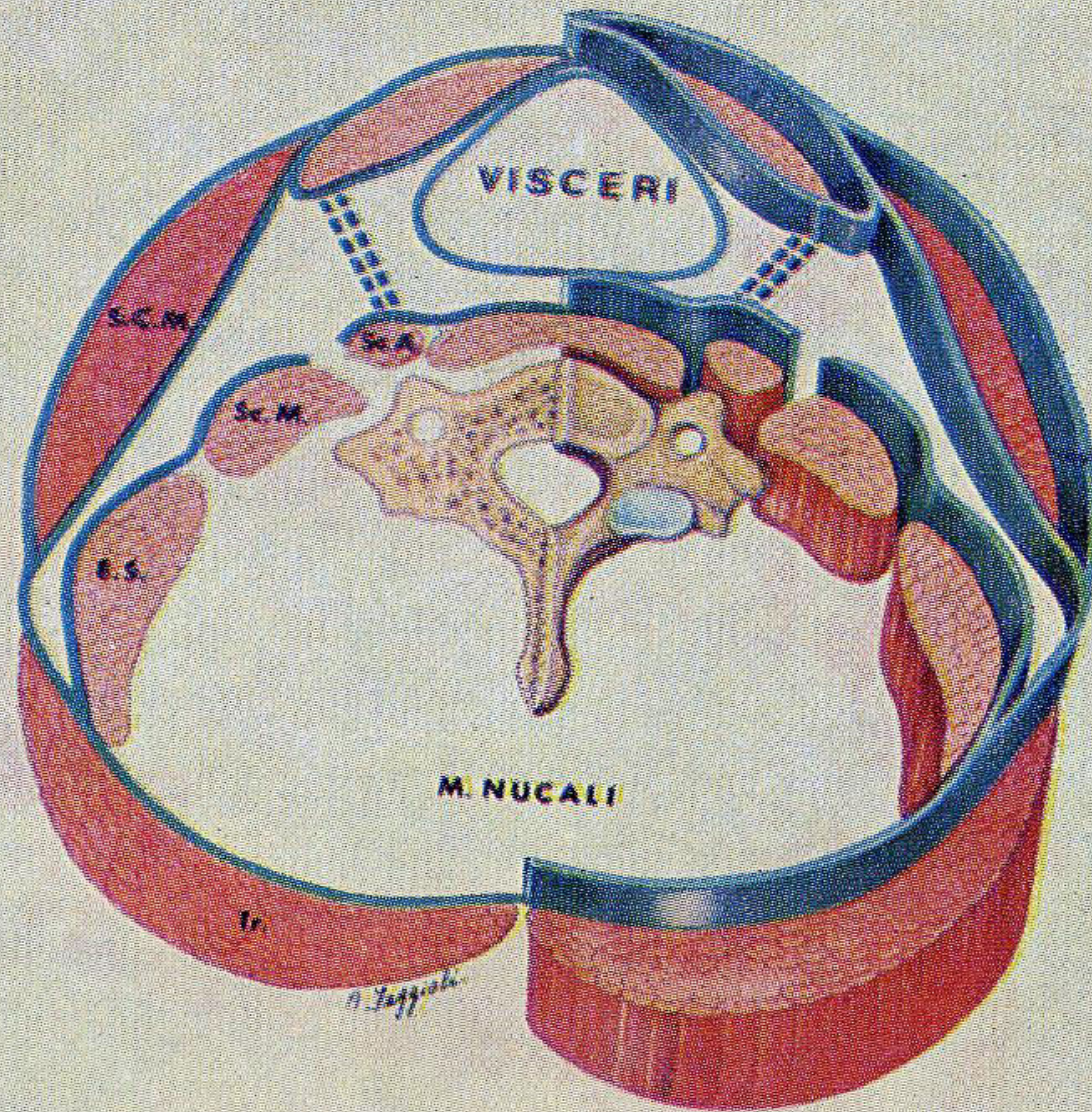
Shah JP, *Am. J. Surg.*, 160;405-409, 1990

Mukherji SK. et al., *Head and Neck*, 23:995-1005, 2001

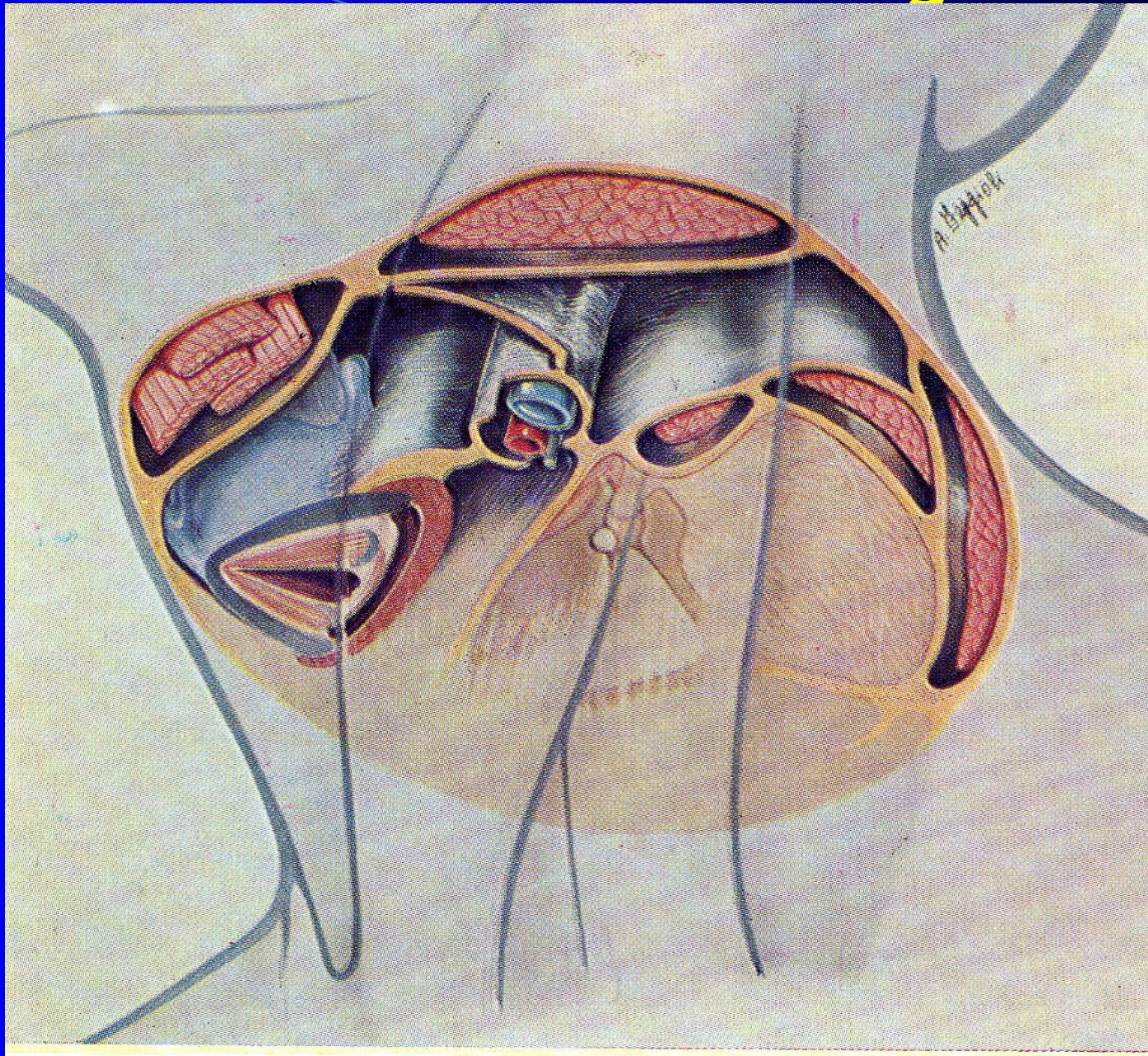
Gli spazi del collo



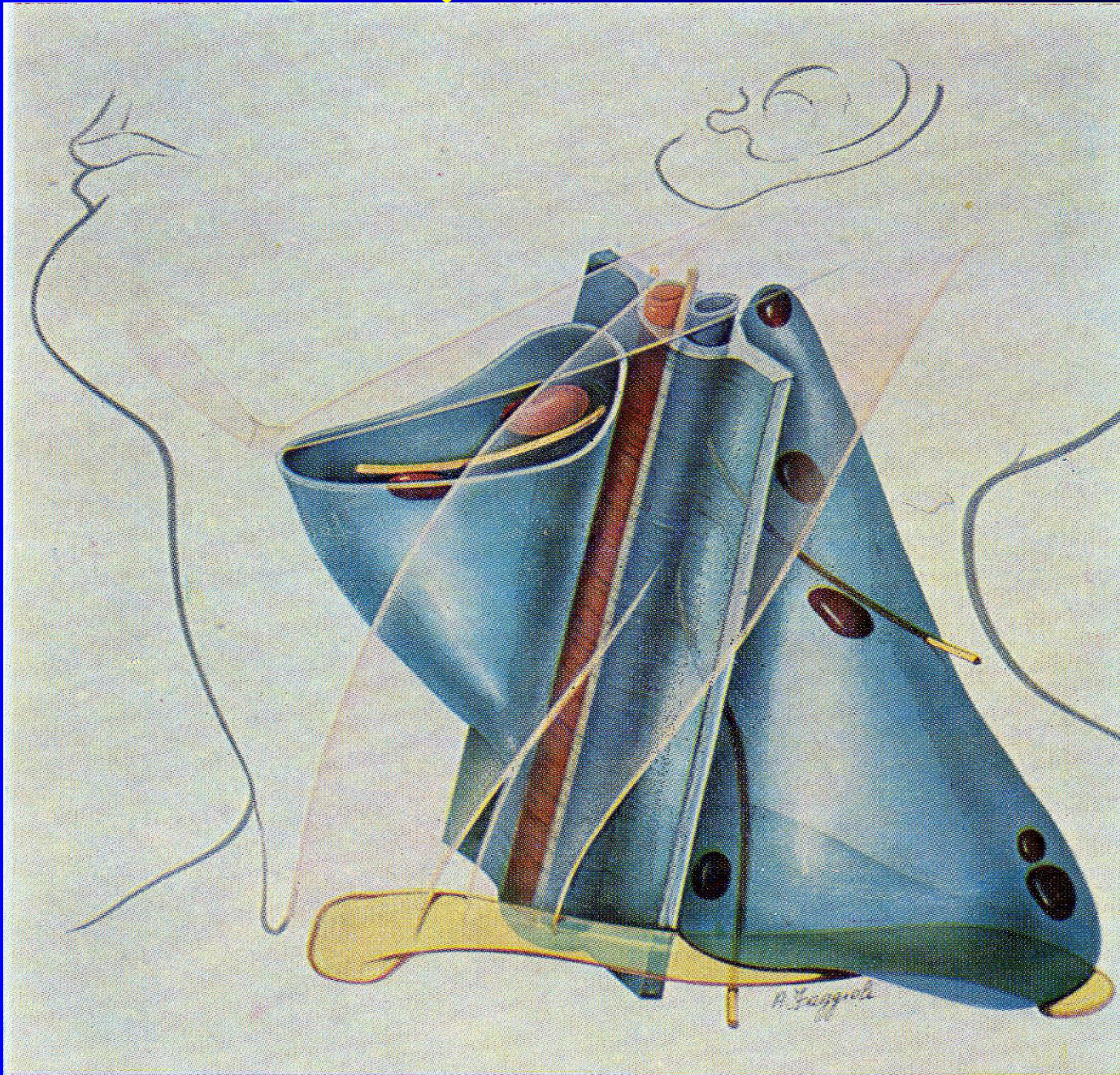
Fasce e muscoli del collo



Spazi del collo e setto longitudinale



Spazi laterale e paraviscerale del collo



Strategia dello svuotamento funzionale

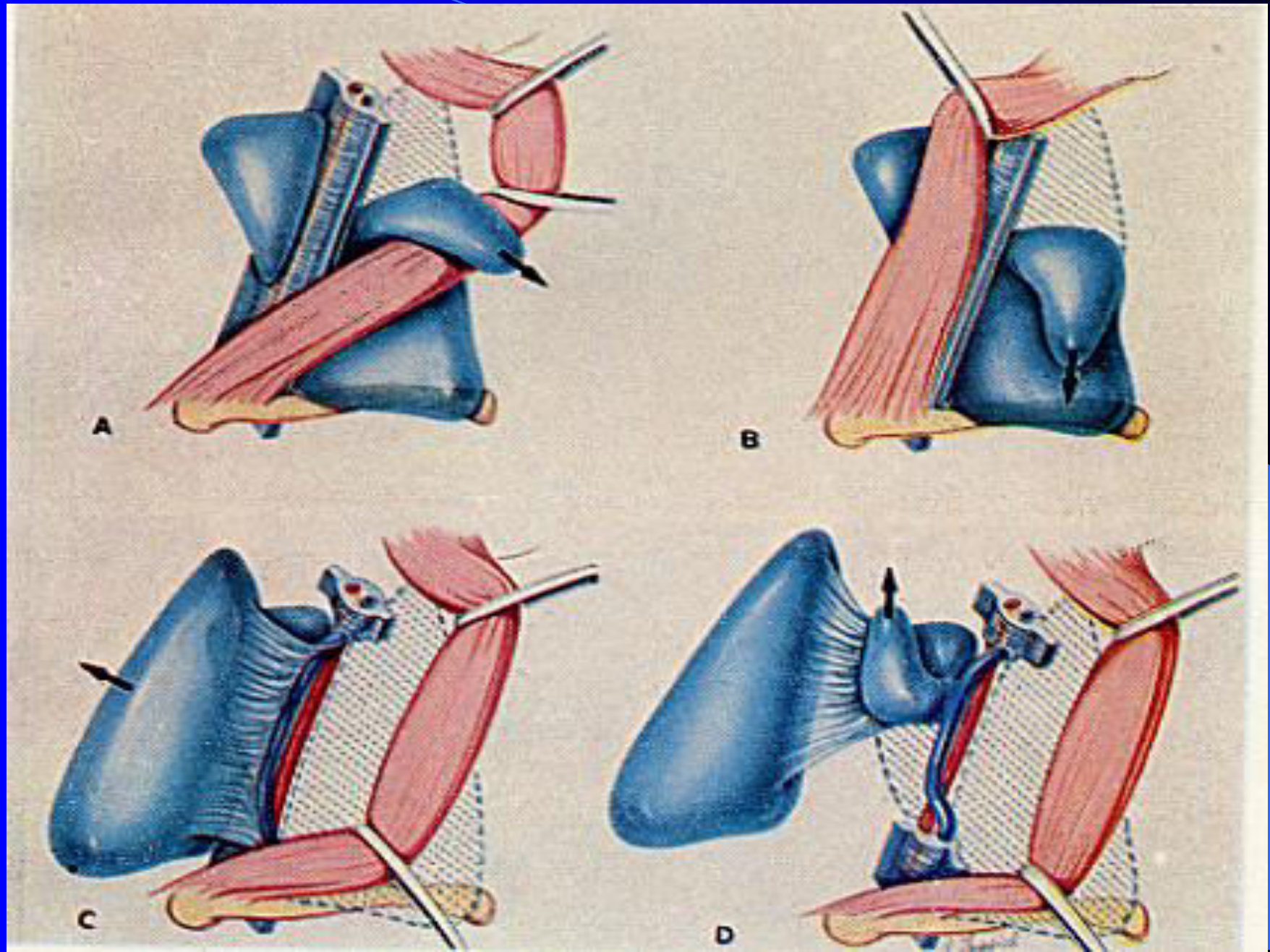
⇒ Svuotamento dello spazio laterale

- recesso sottomuscolare
- trigono laterale

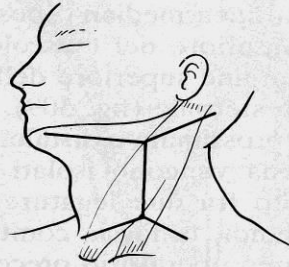
⇒ Dissezione del setto longitudinale

⇒ Svuotamento dello spazio paraviscerale

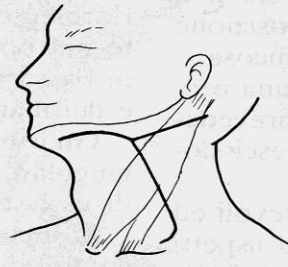
Strategia dello svuotamento funzionale



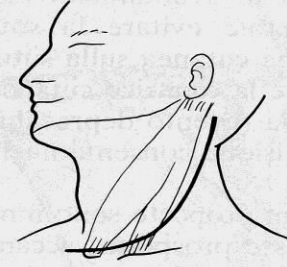
Tipi di incisione



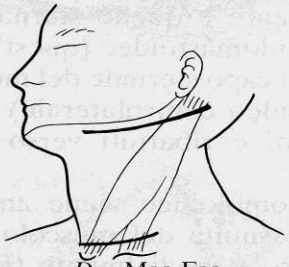
A - Hayes-Martin



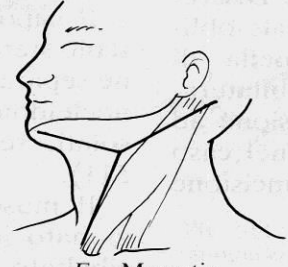
B - Conley



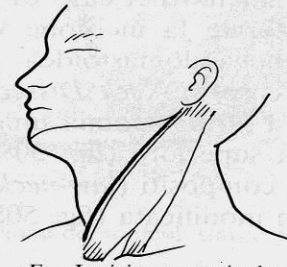
C - Grandon



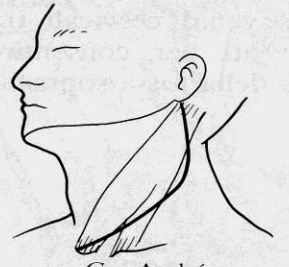
D - Mac Fee



E - Morestin



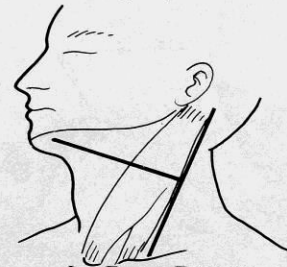
F - Incisione verticale-obliqua pre S.C.M.



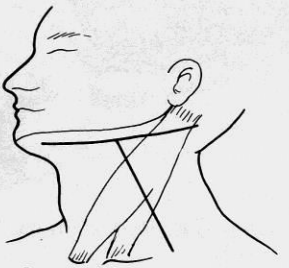
G - André



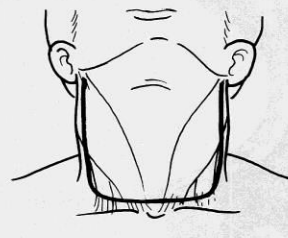
H - Guerrier



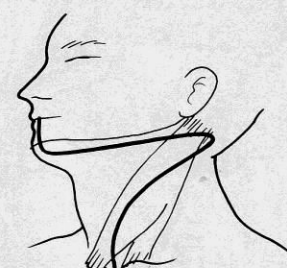
I - Roux Berger



L - Sebilleau-Carrega

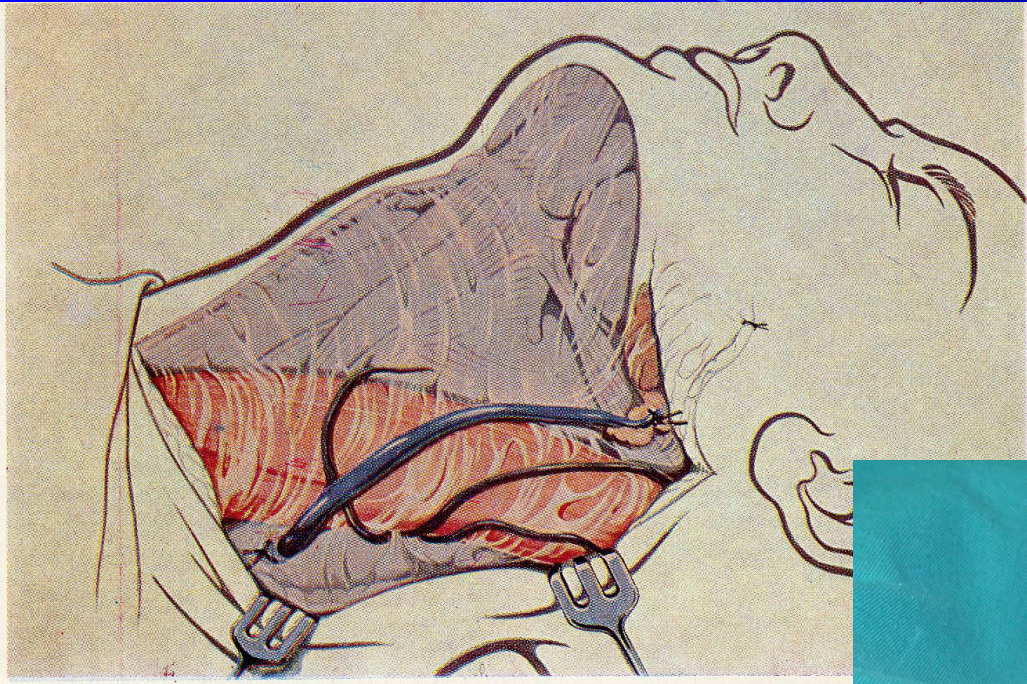


M

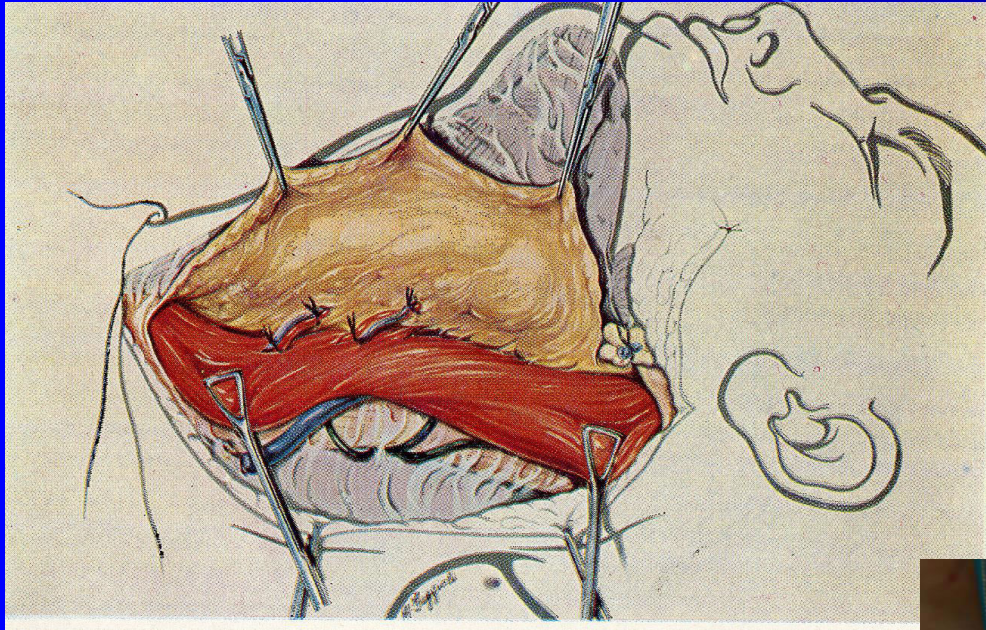


N

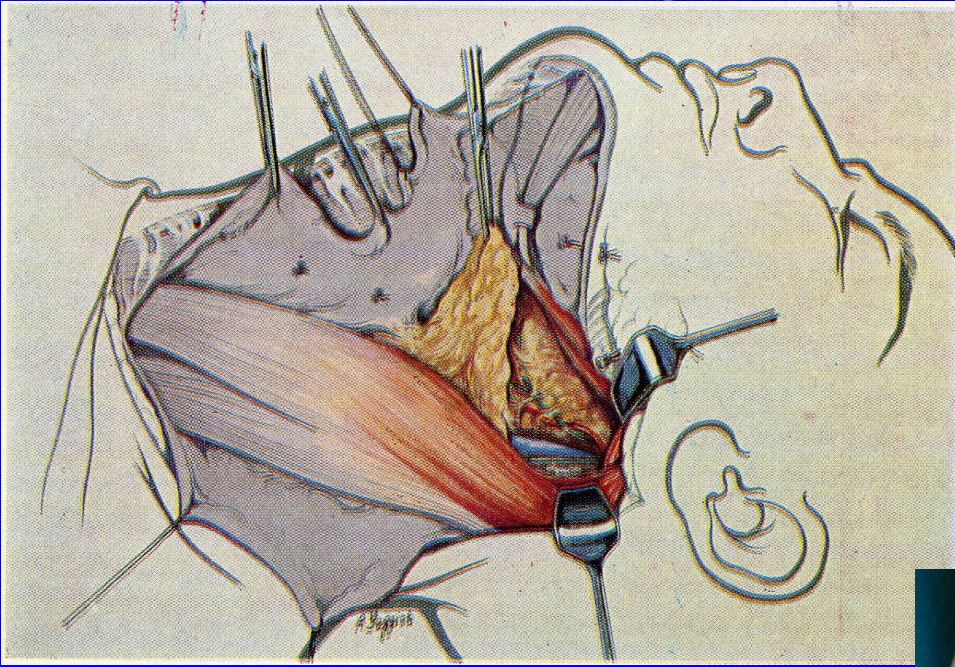
Legatura della vena giugulare esterna



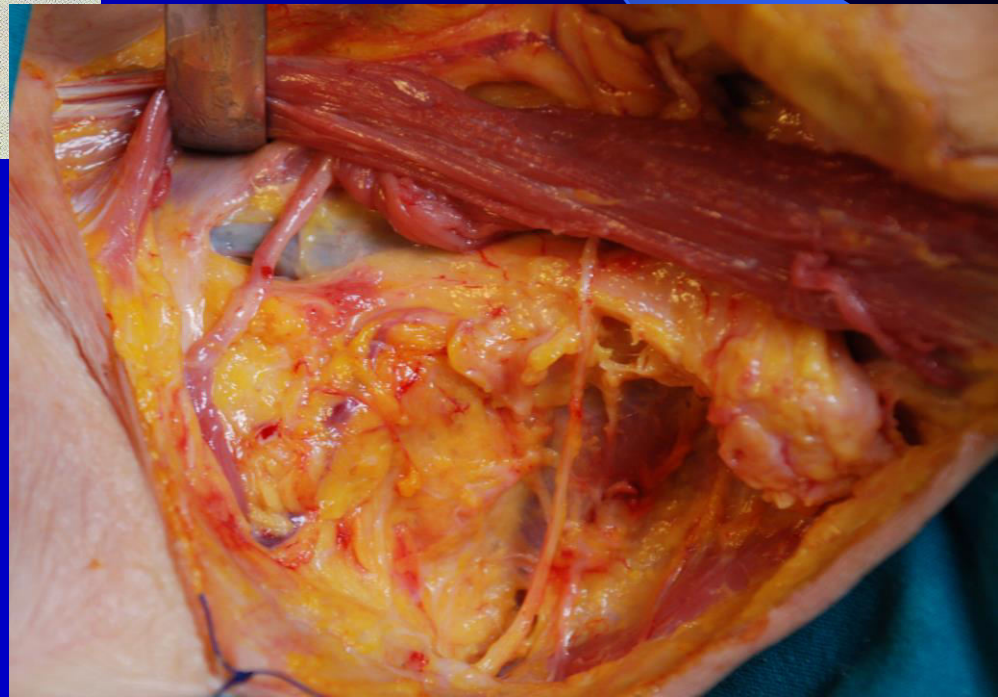
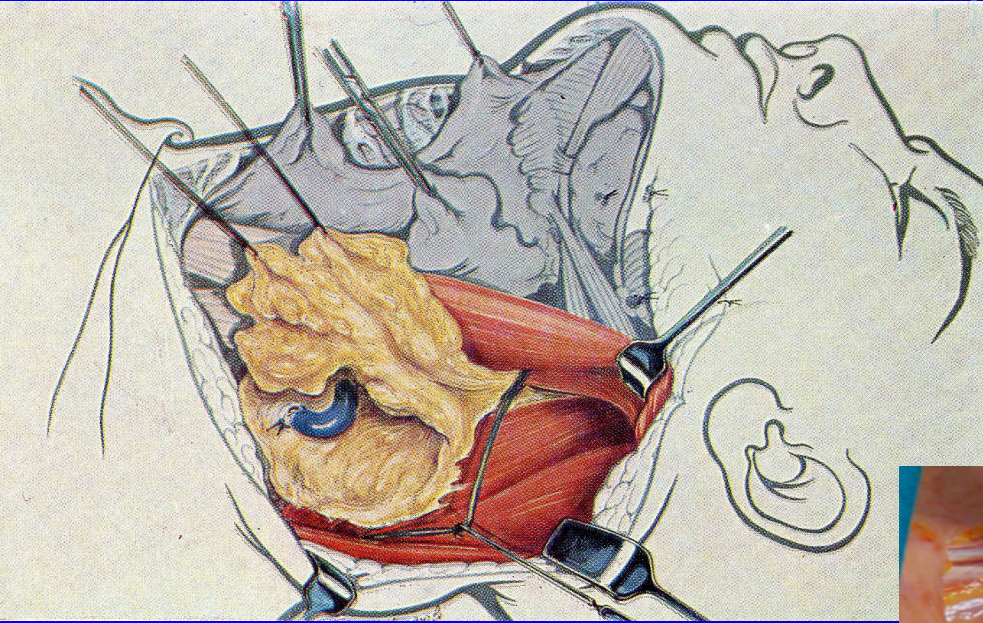
Dissezione della fascia cervicale comune



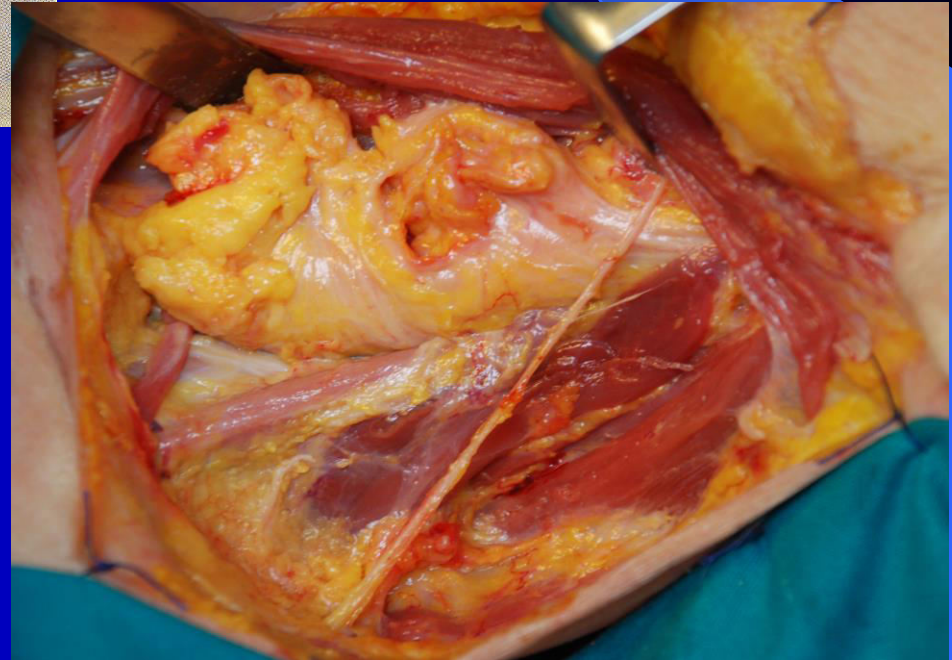
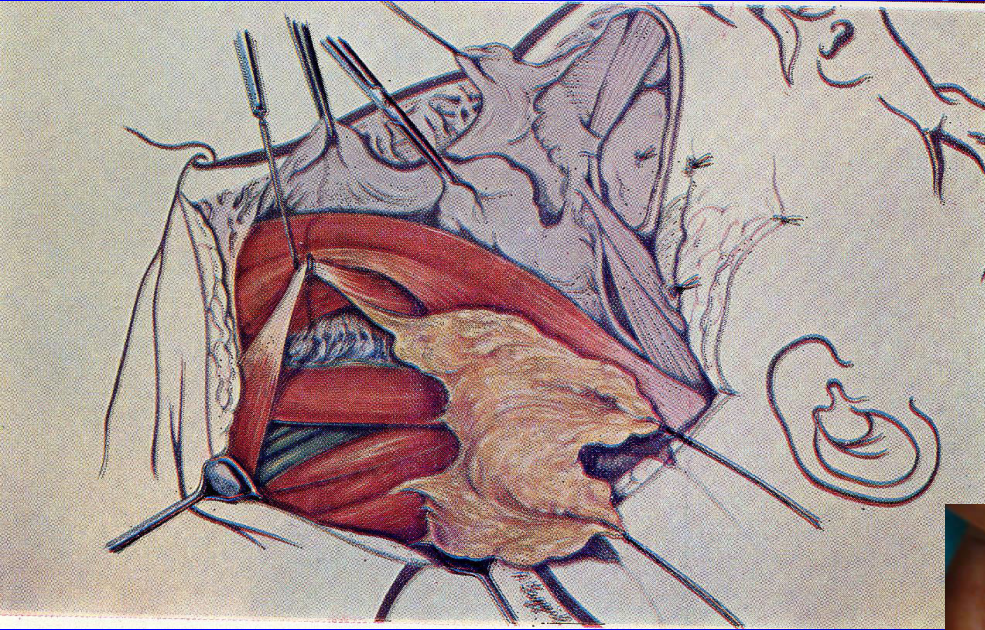
Svuotamento del recesso sottomuscolare



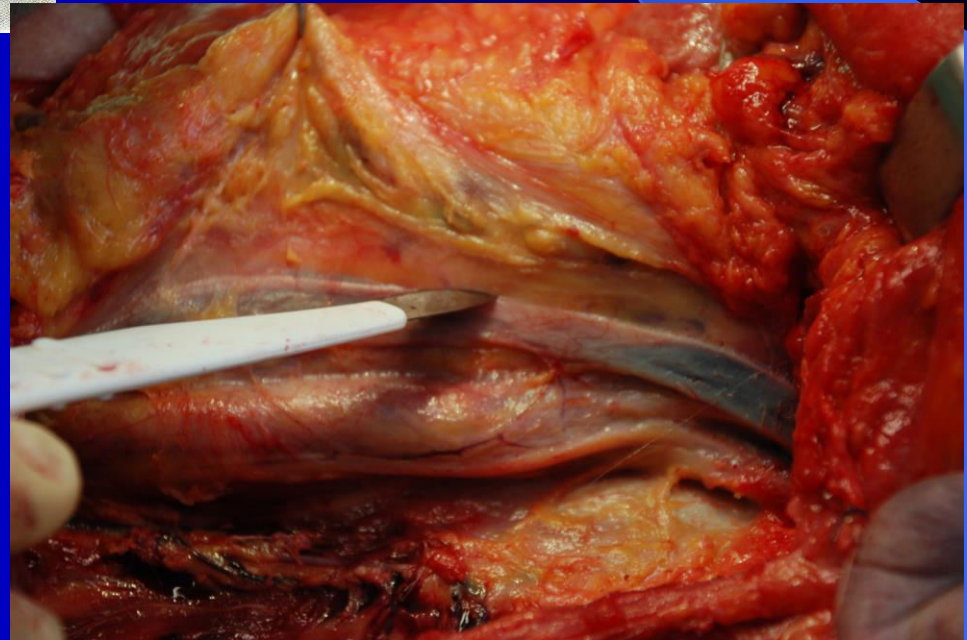
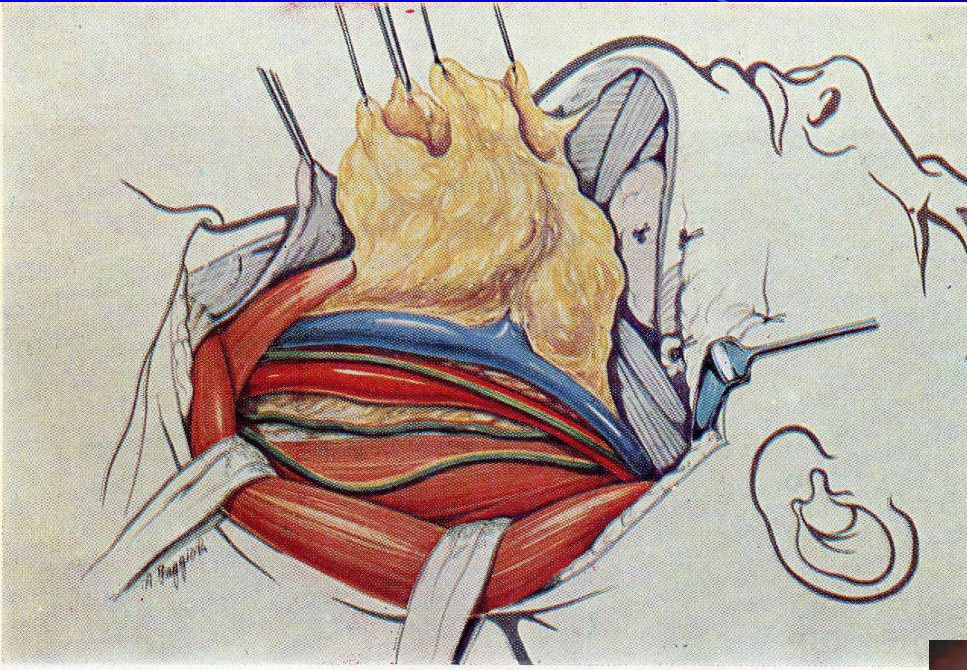
Svuotamento dello spazio laterale sovraspinale



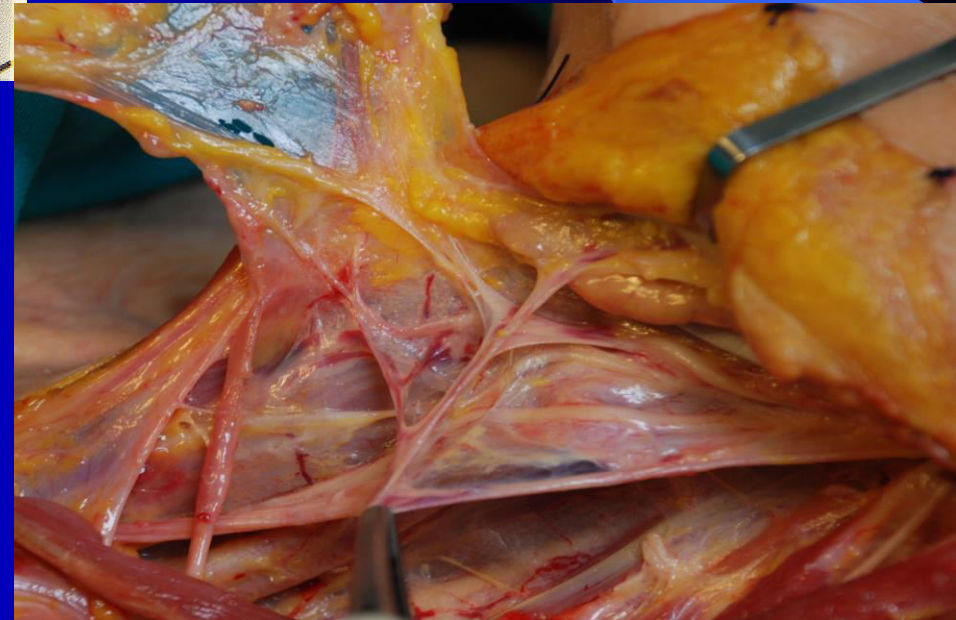
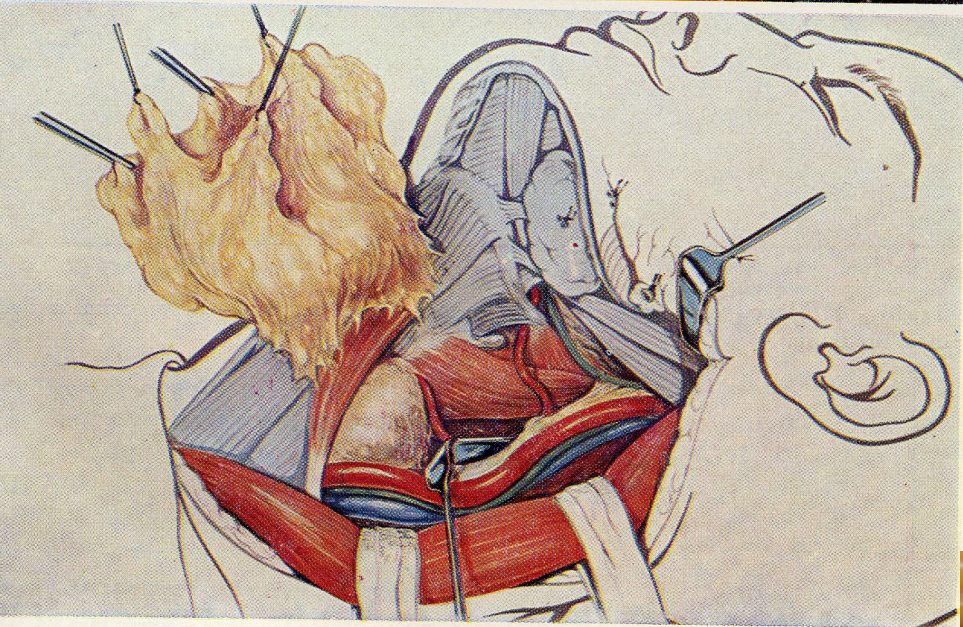
Svuotamento dello spazio laterale sottospinale



Dissezione del setto longitudinale



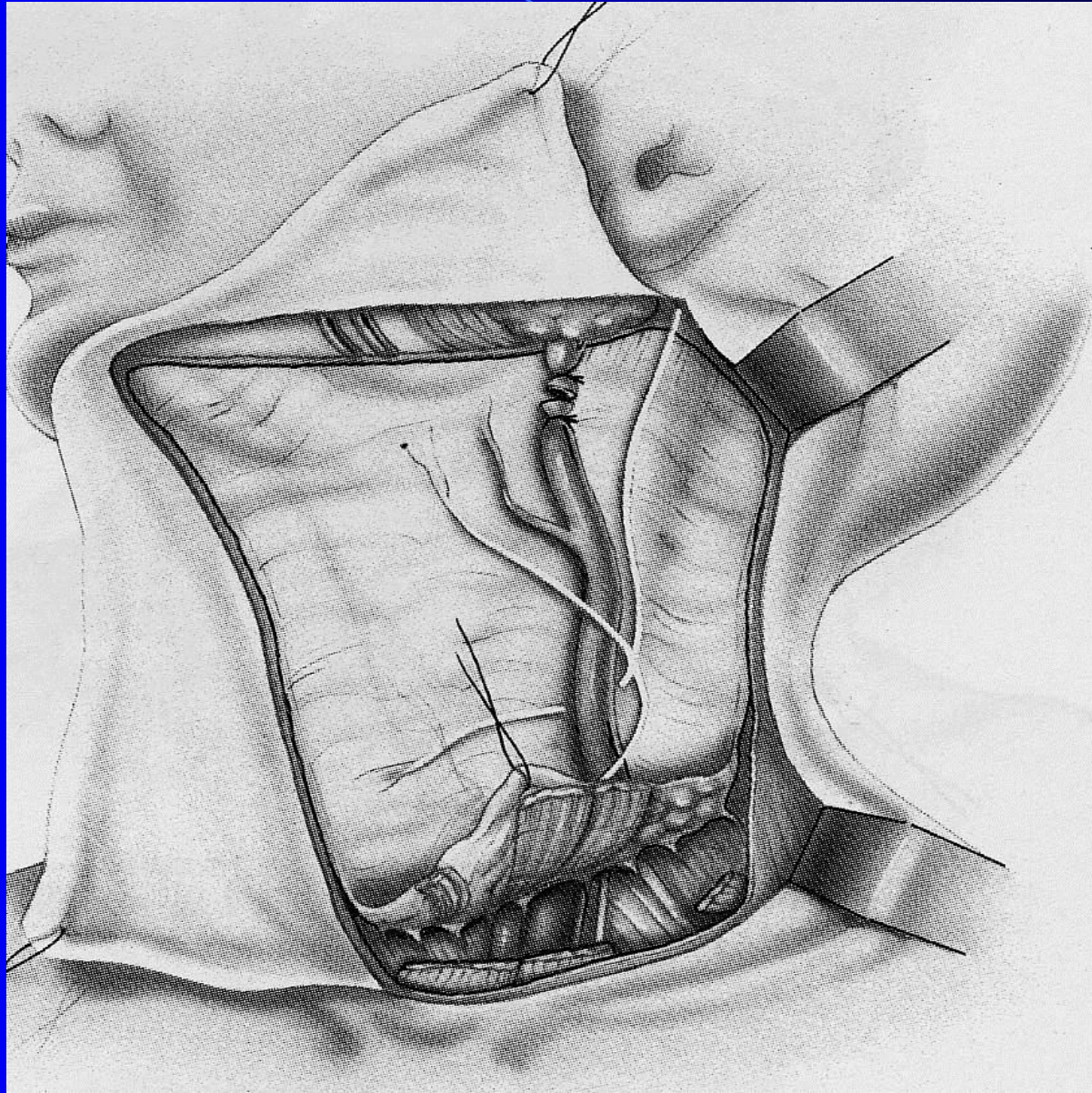
Svuotamento dello spazio paraviscerale



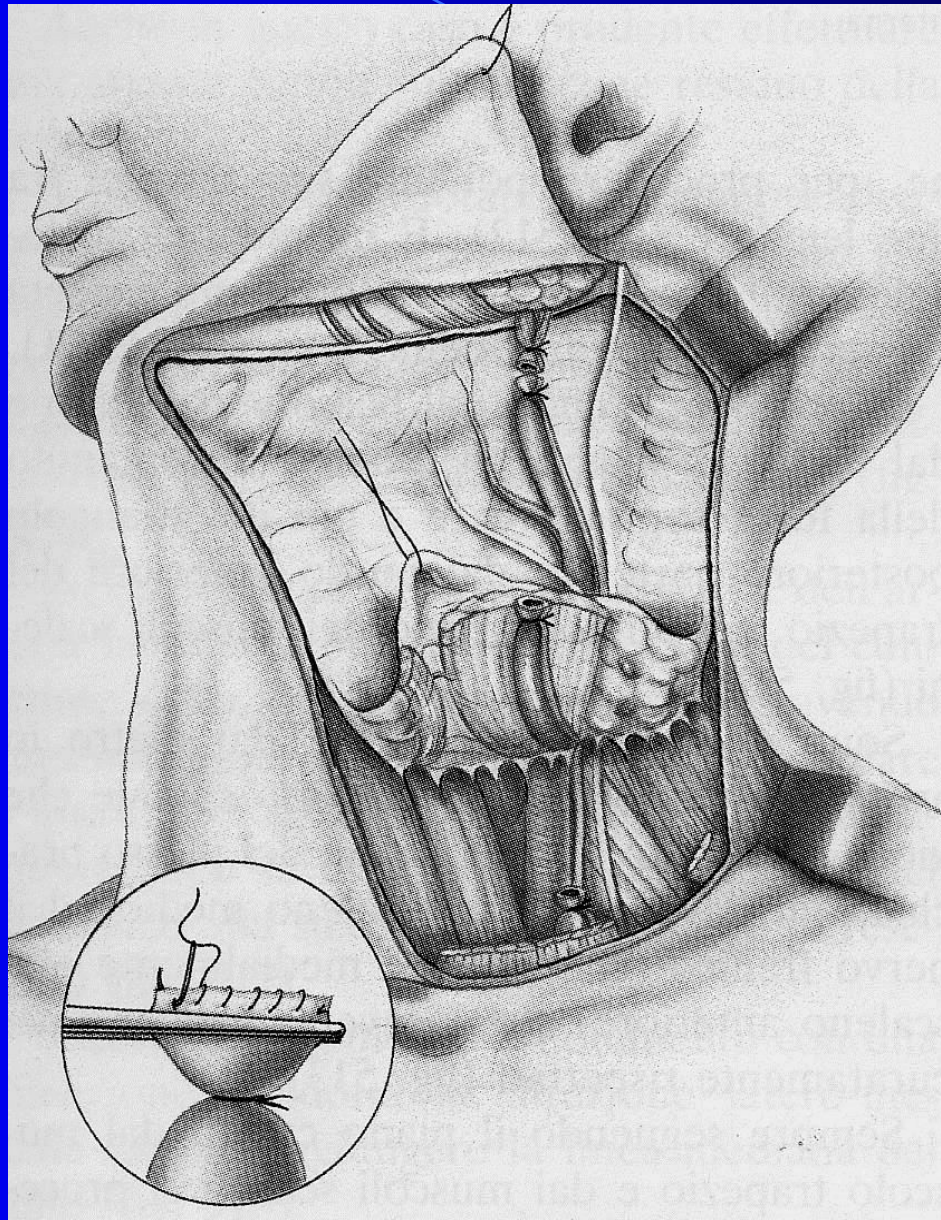
Strategia dello svuotamento radicale

- ⇒ svuotamento progressivo dal basso
- ⇒ sacrificio n.spinale, v.giugulare interna, m.sternocleidomastoideo
- ⇒ conservazione n.frenico, plesso brachiale, n.vago, a.carotide
- ⇒ svuotamento loggia sottomandibolare

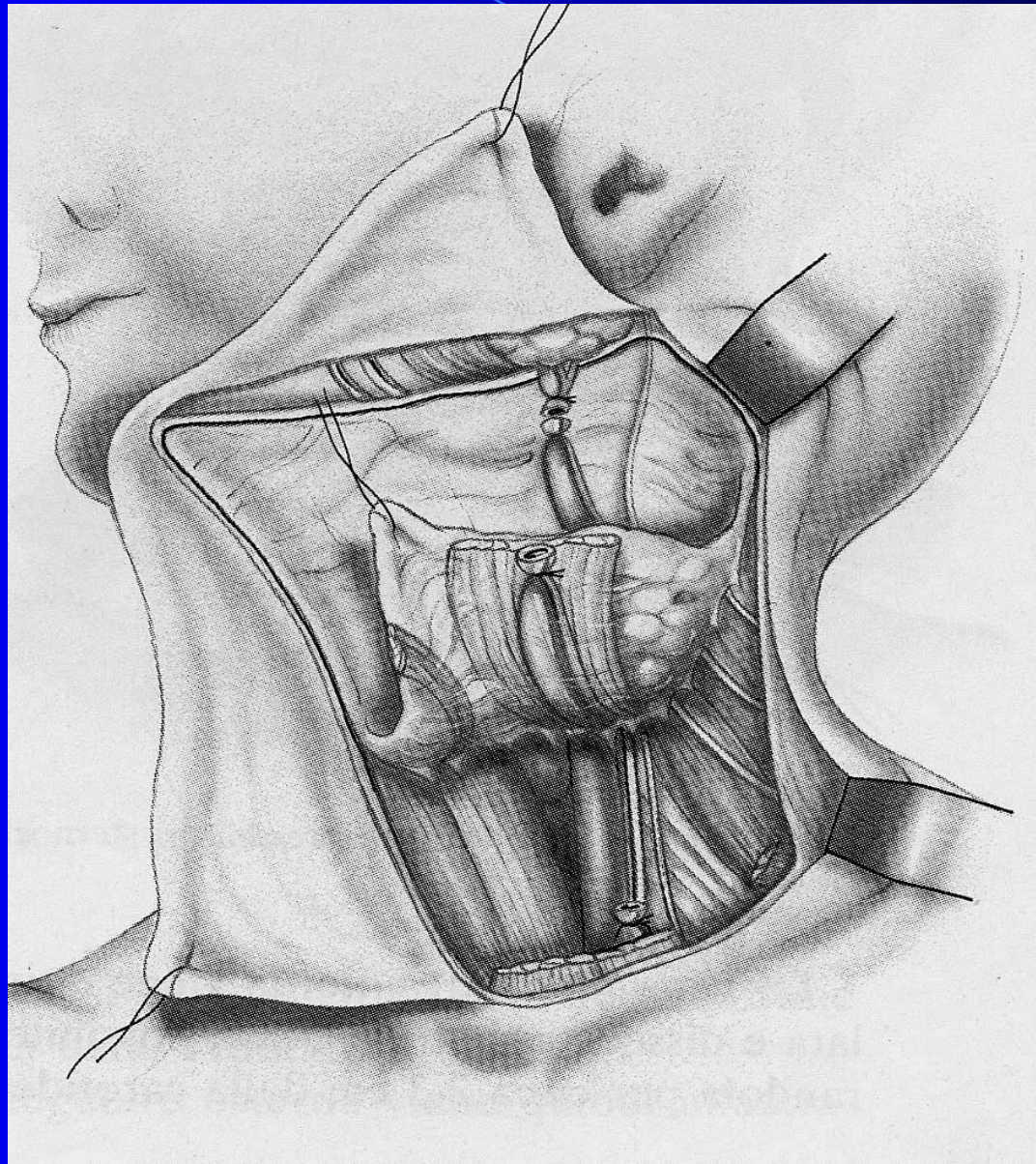
Sezione dei mm. sternocleidomastoideo e omoioideo



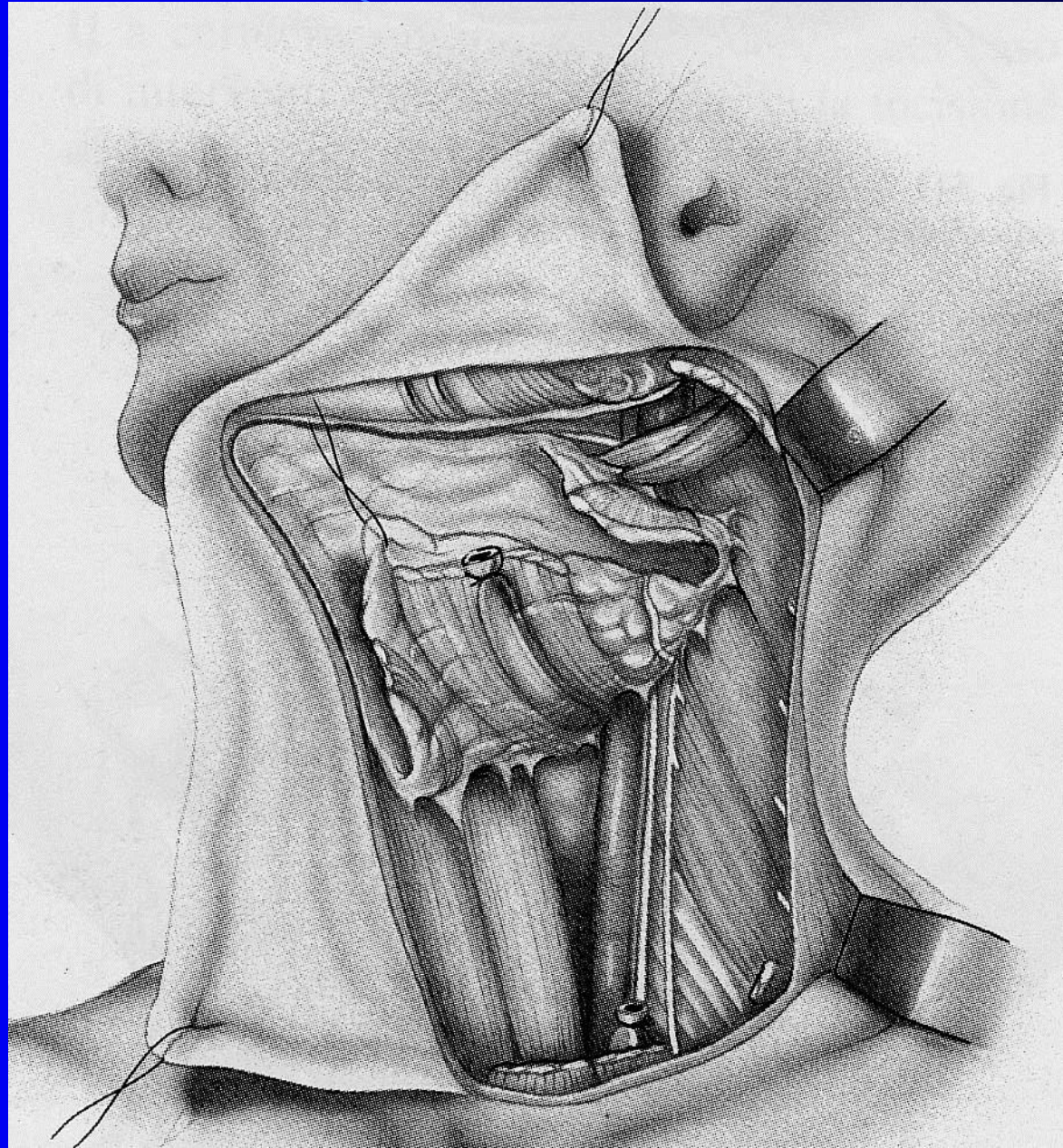
Legatura inferiore della vena giugulare interna



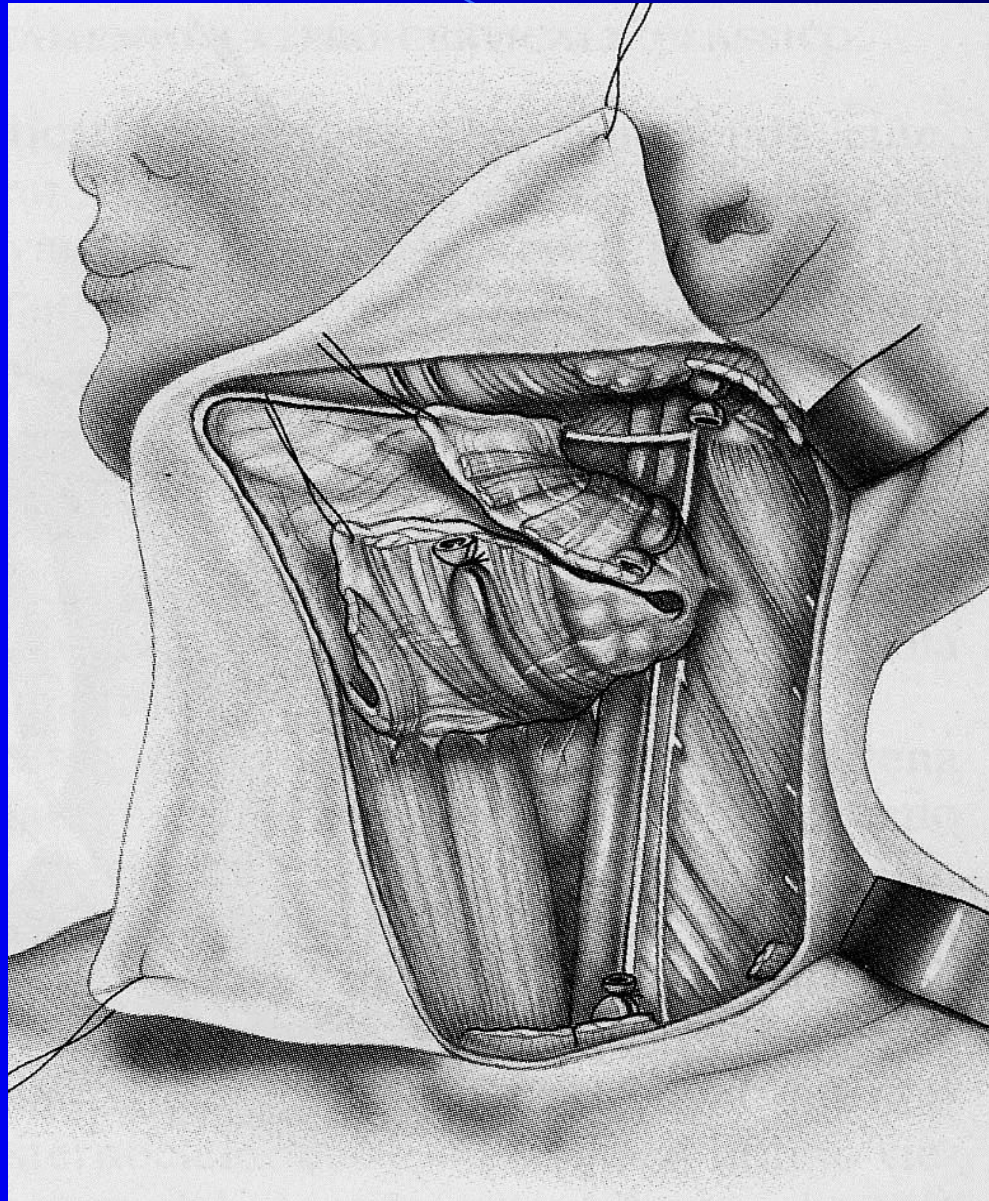
Svuotamento loggia sovraclavare e triangolo posteriore



Sezione delle radici del plesso cervicale



Legatura superiore della vena giugulare interna



Svuotamento della loggia sottomandibolare

