



Università degli Studi di Milano  
Istituto di Anatomia Patologica

*“Ricordo di Lino Rossi e  
dei suoi contributi  
sull’innervazione del  
cuore”*

Luigi Matturri

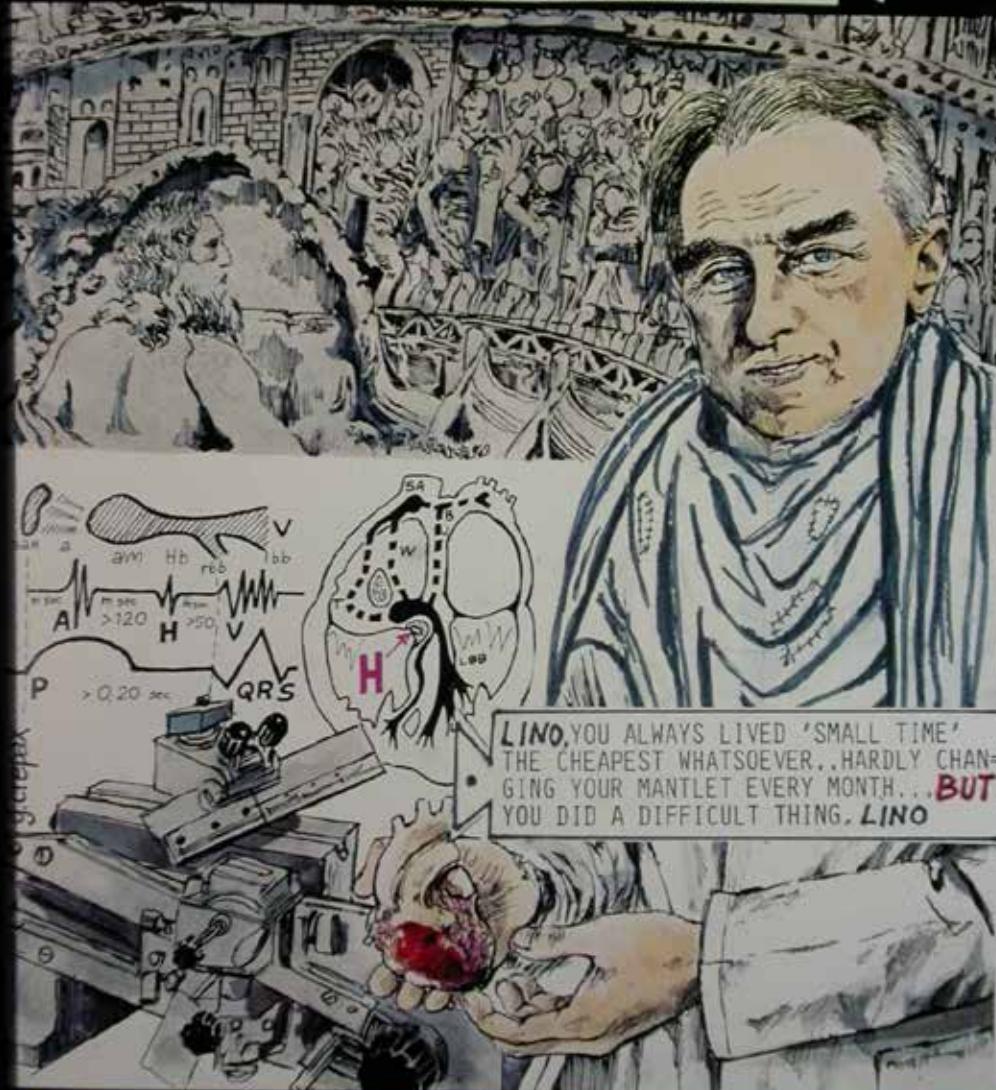


**“XVII  
Riunione  
Scientifica Annuale  
del Gruppo di  
Studio Italiano  
di Patologia  
Cardiovascolare”**

Villa Franceschi  
Mira-Venezia  
23-24 Giugno 2006



EGISTI VITAM SEMPER LINE MUNICIPALEM  
QVA NIHIL OMNINO VILIVS ESSE POTEST..  
RARIS TOGVL A EXCVSSA KALENDIS... **ma...**  
FECISTI LINE REM DIFFICILEM. **Martis, 80 AD**

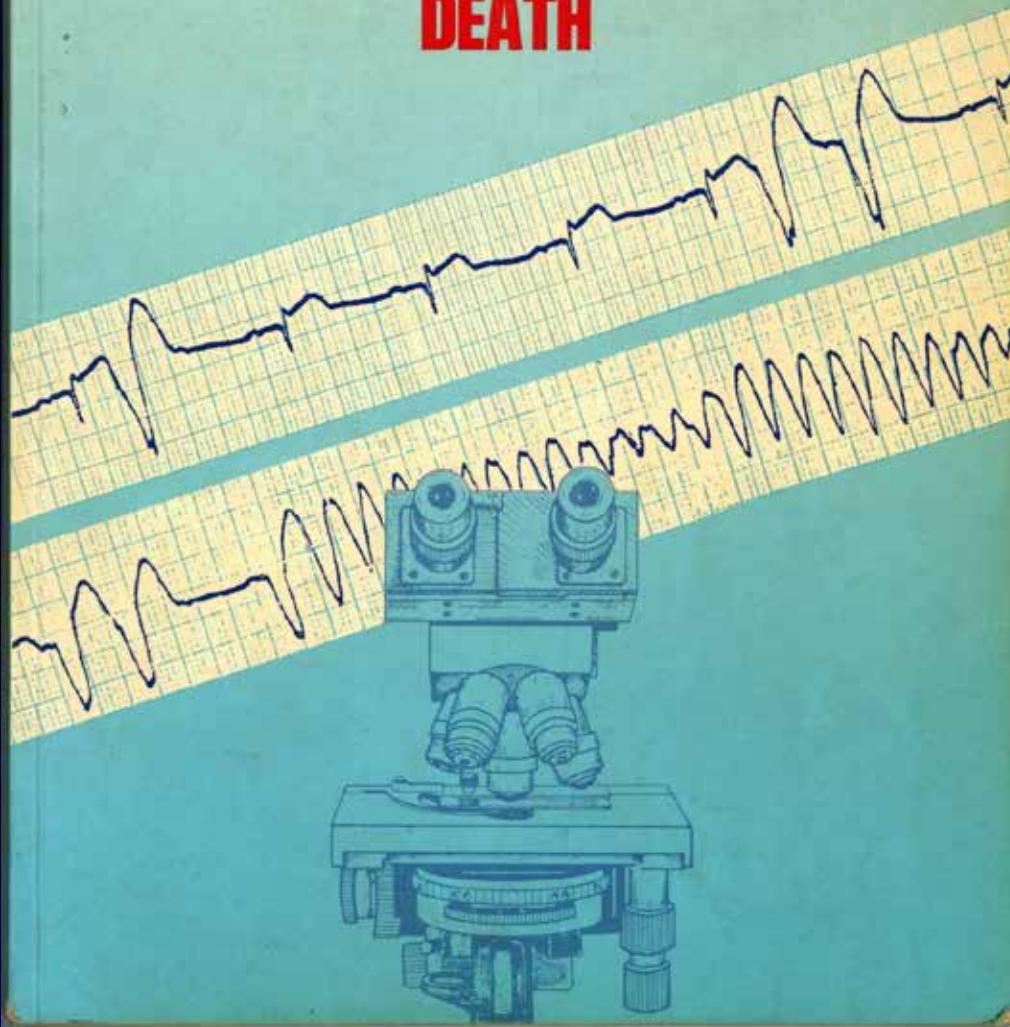


from classical stuff to medical staff  
- a classic 'Jack-of-all-trades'-



L. ROSSI - G. THIENE

# ARRHYTHMOLOGIC PATHOLOGY OF SUDDEN CARDIAC DEATH



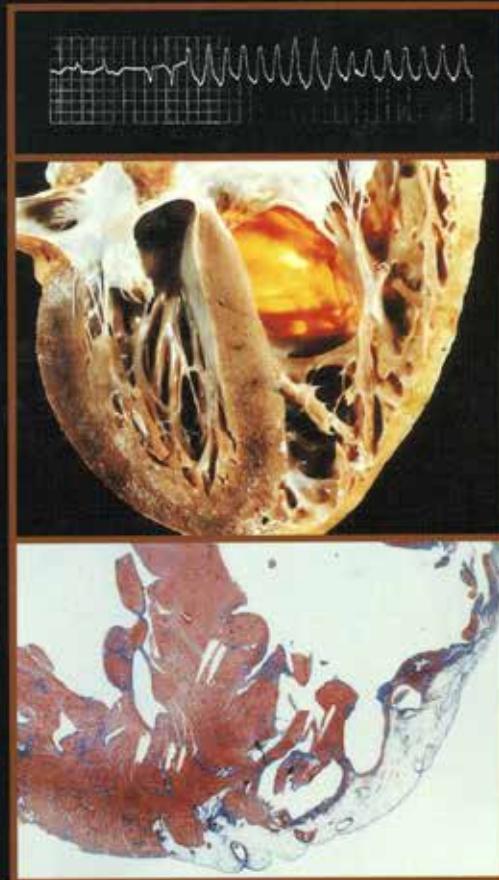
# *Histopathologic Features of Cardiac Arrhythmias*

LINO ROSSI

CASA EDITRICE AMBROSIANA - MILANO

EDITED BY  
A. NAVA  
L. ROSSI  
AND  
G. THIENE

**ARRHYTHMOGENIC  
RIGHT VENTRICULAR  
CARDIOMYOPATHY/  
DYSPLASIA**



# L'OSPEDALE MAGGIORE

## SIMPOSI IN MEDICINA CLINICA

Patologia delle aritmie e della morte improvvisa  
cardiaca

Cardiac arrhythmias and sudden cardiac death

Guest Editor: Luigi Matturri

Coeditor: Lino Rossi

Rivista medica  
degli Ospedali di Milano

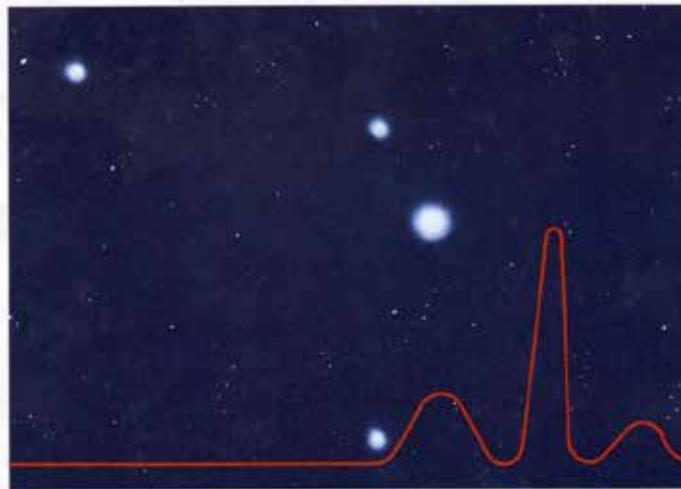
IRCCS Ospedale Maggiore  
Niguarda Ca' Granda  
San Carlo Borromeo  
e di Sesto San Giovanni

Vol. 89, n.3 Settembre 1995



# CARDIAC CONDUCTION BLOCKS AND PACEMAKING

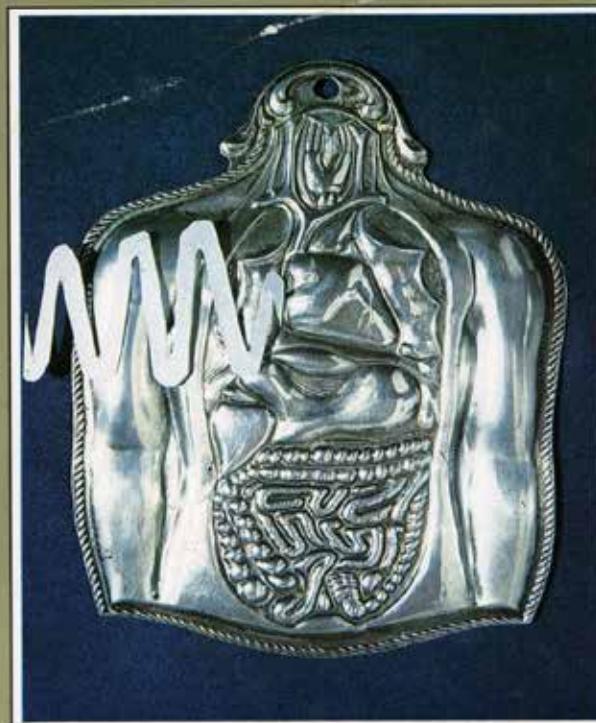
LINO ROSSI   LUIGI MATTURRI   ANTONIO LOTTO



AN ANATOMOCRITICAL COLOR ATLAS

**CLINICOPATHOLOGICAL  
APPROACH  
TO CARDIAC ARRHYTHMIAS**  
**A COLOR ATLAS**

LINO ROSSI - LUIGI MATTURRI



# COUNCIL ON CLINICAL CARDIOLOGY AMERICAN HEART ASSOCIATION



THIS CERTIFICATE BEARS WITNESS THAT

**Professor Lino Rossi**

HAS MET THE CRITERIA OF ELIGIBILITY AND HAS BEEN DULY ELECTED AN

**HONORARY FELLOW**

OF THE COUNCIL ON CLINICAL CARDIOLOGY

*November 18, 1980*  
DATE OF CERTIFICATION

*Thomas H. James, M.D.*  
PRESIDENT, AMERICAN HEART ASSOCIATION

*Andes M. Weisler, M.D.*

CHAIRMAN OF THE COUNCIL

# NASPE North American Society of Pacing and Electrophysiology

Founded 1979



*Be it known that*

Lino Rossi, MD

*was duly elected to Regular membership in*

**The North American Society of Pacing and Electrophysiology**

*the twenty-third day of March in the year 1993*

Scallop Trini

President

R. B. Ross

President-Elect

Certificate # 2005

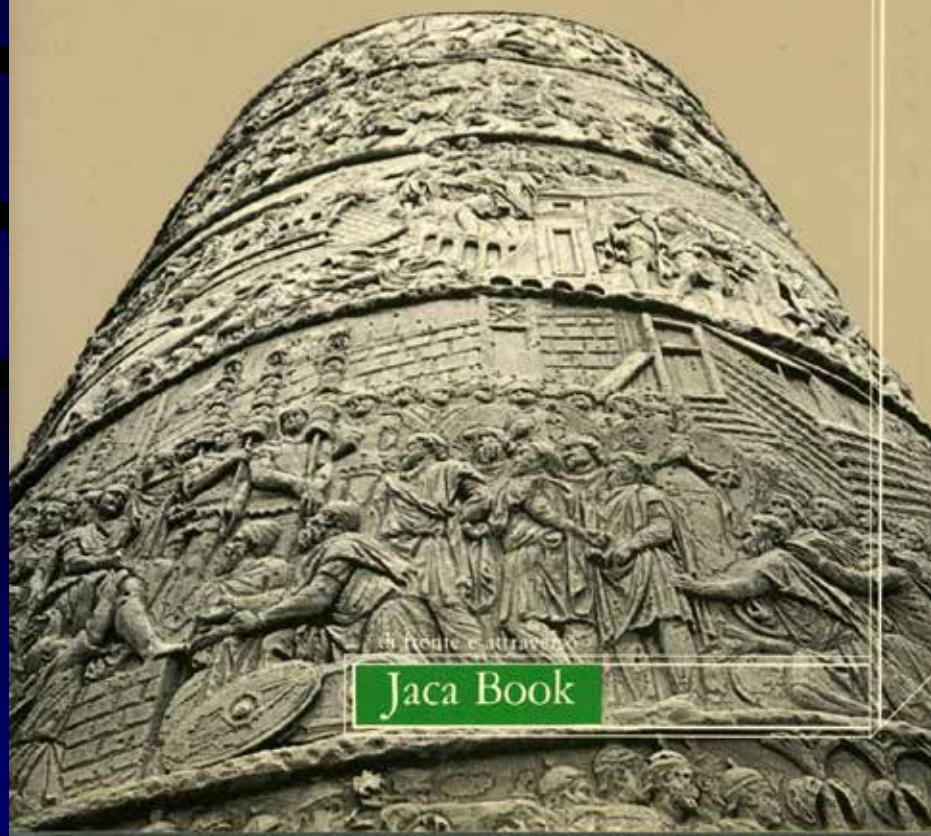
David L. Hayes

Secretary

Storia

LINO ROSSI  
**ROTOCALCHI  
DI PIETRA**

Segni e disegni dei tempi sui  
monumenti trionfali  
dell'Impero Romano



Jaca Book

LINO ROSSI

TRAJAN'S  
COLUMN AND  
THE DACIAN  
WARS

ENGLISH TRANSLATION  
REVISED BY J·M·C·TOYNBEE

ASPECTS OF  
GREEK AND ROMAN LIFE  
GENERAL EDITOR: H·H·SCULLARD  
THAMES AND HUDSON



## ROYAL NUMISMATIC SOCIETY

c/o DEPARTMENT OF COINS AND MEDALS,  
BRITISH MUSEUM, LONDON, W.C.1

Sir,

I am directed by the President of the Royal  
Numismatic Society to inform you that you were  
elected a Fellow of the Society at its Meeting on

.....  
Tuesday ..... 20th day of May ..... 1975 .....

Yours faithfully,

*Manlio M. Antolini*

HONORARY SECRETARY.

Dr. Lino Rossi,  
Via Annunziata 25/b,  
Milan,  
Italy.



This certificate is awarded to  
Rossi Lino di Emilio  
as a token of gratitude for and  
appreciation of the help given to the  
Sailors, Soldiers and Airmen of the  
British Commonwealth of Nations,  
which enabled them to escape from, or  
evade capture by the enemy.

H.R. Alexander

Field-Marshal,  
Supreme Allied Commander,  
Mediterranean Theatre

1939-1945



**Istituto di Anatomia Patologica**  
Università degli Studi di Milano



**Centro di Ricerca "Lino Rossi" per lo studio  
e la prevenzione della morte inaspettata  
perinatale (del feto a termine e neonatale)  
e della sindrome della morte improvvisa del  
lattante (SIDS)**

Decreto Rettoriale n. 225878 del 23/04/04

Direttore: Prof. Luigi Matturri

# PÄDIATRIE

- CHECKLISTE -

RONALD  
KURZ

REINHARD  
ROOS

SIDS



..uncertain pathogenesis  
..prob. nervous centers'  
instability... reflex  
respiratory-cardiocirculatory  
derangements..

1996

# ANATOMIA PATHOLOGICA DELLA SIDS

GLOMO CAROTID.

GAN. STELLATO

N. VAGO

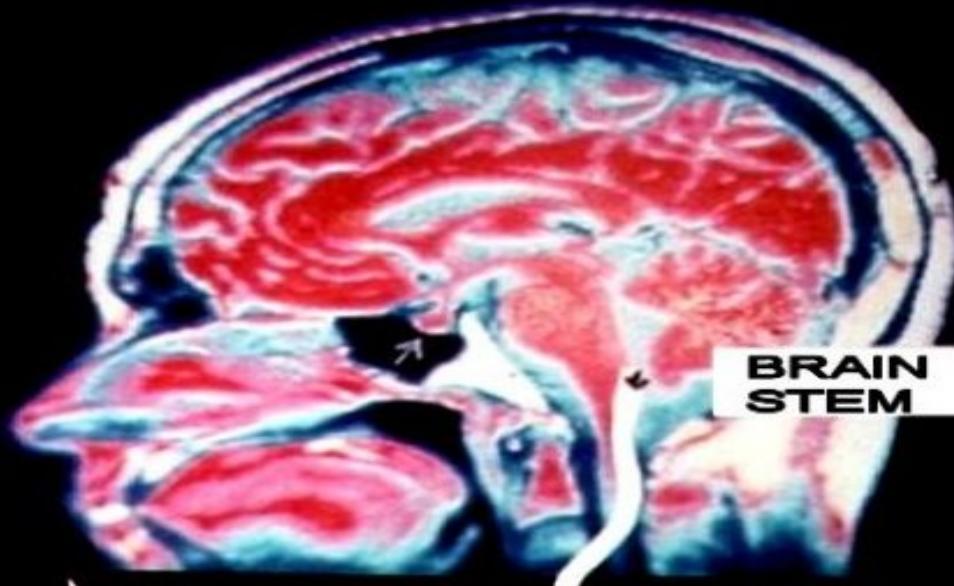
POLMONE  
APNEA

CUORE  
ARITMIE

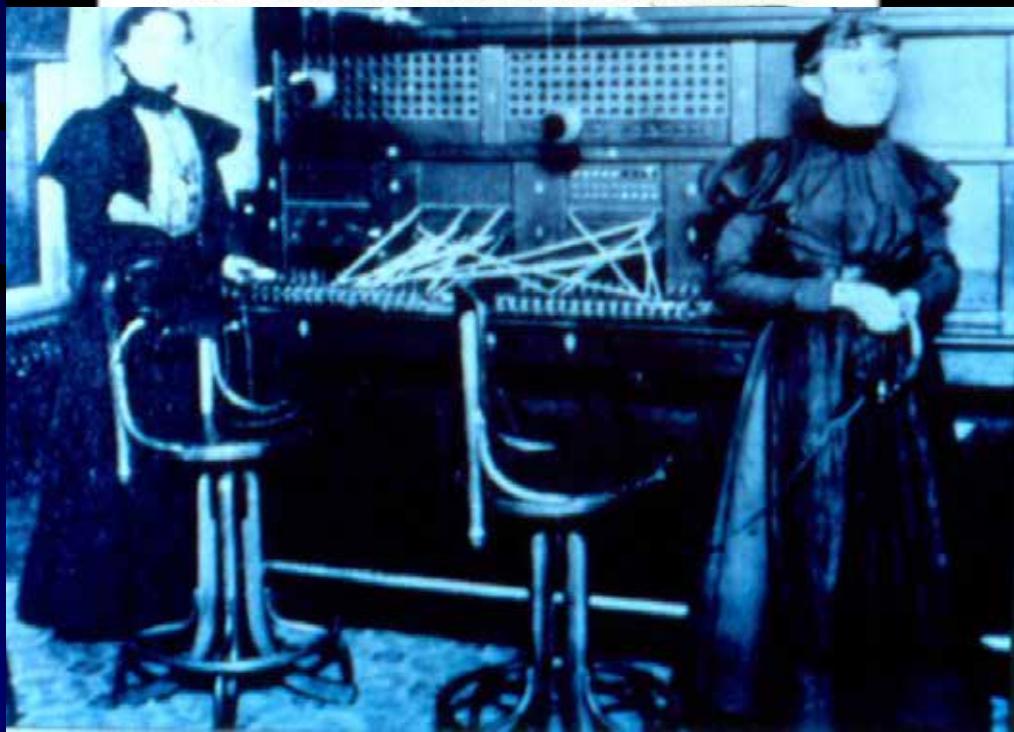
LE TESI RESPIRATORIA E CARDIACA  
NON SONO CONTRAPPONTE, BENSI  
CONVERGENTI NEI CENTRI BULBARI

ANATOMIE

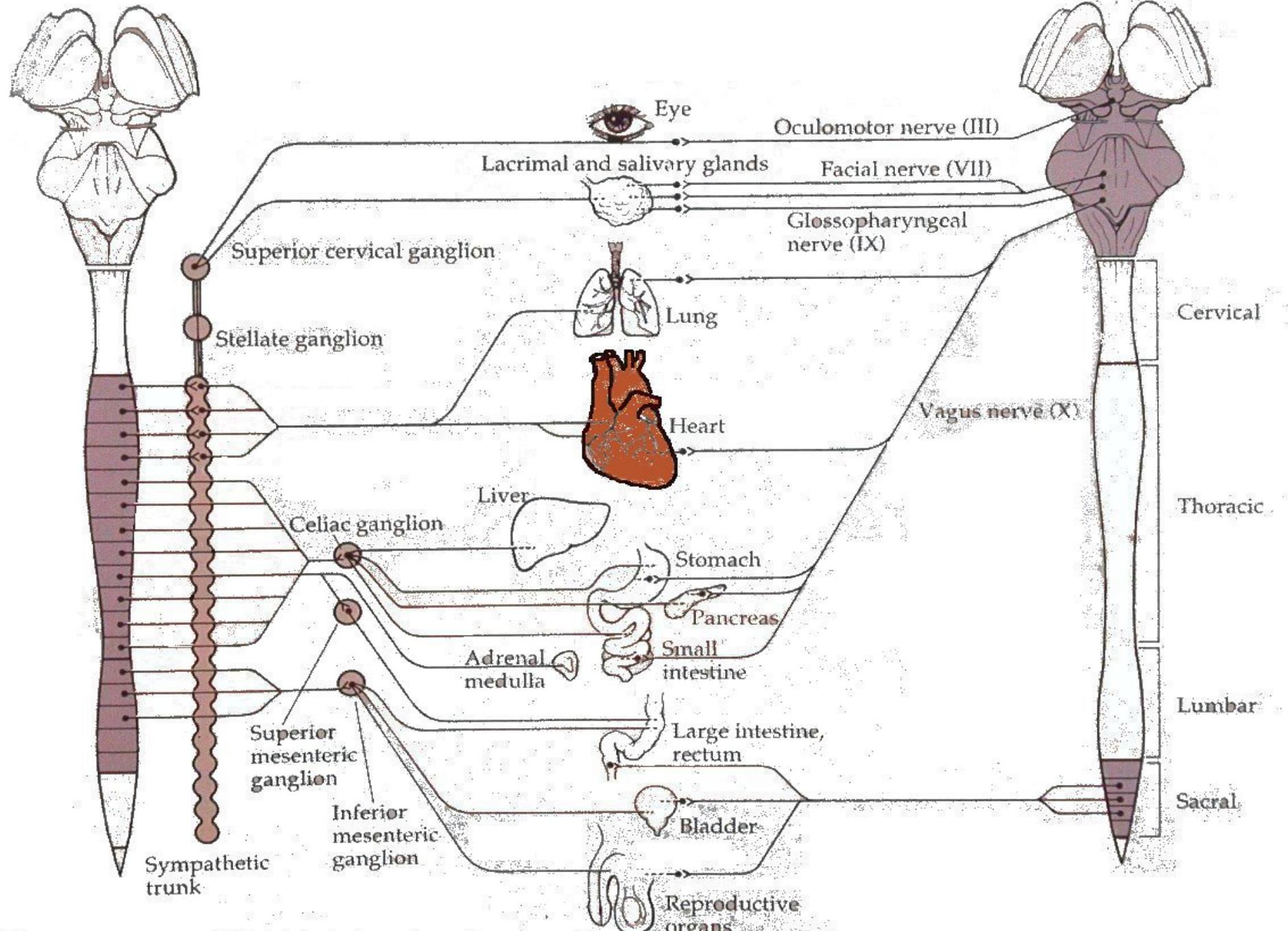
Thieme



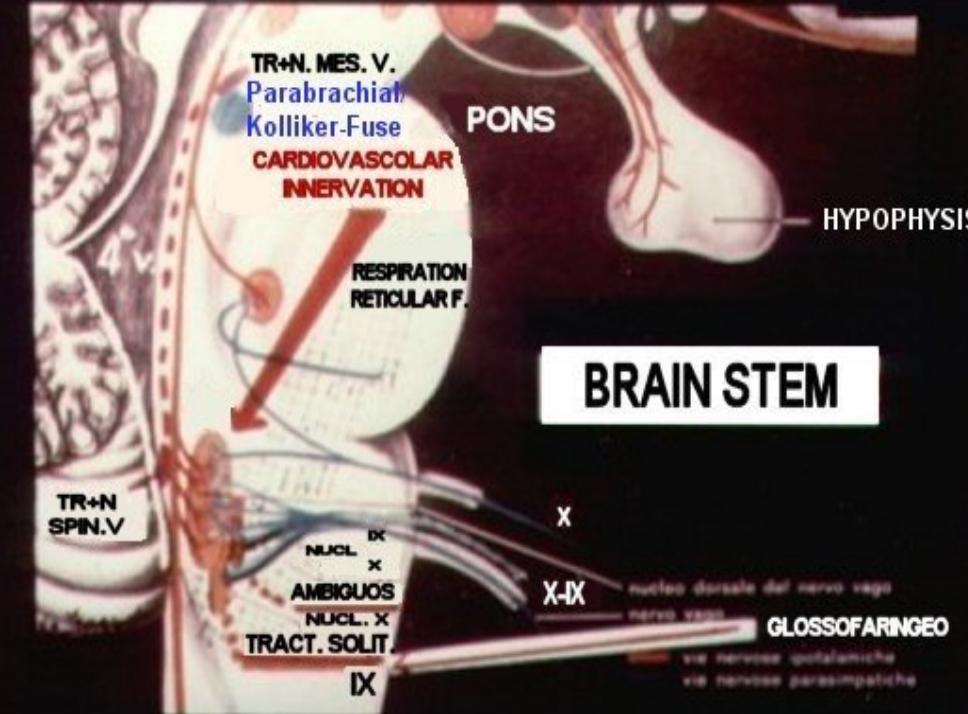
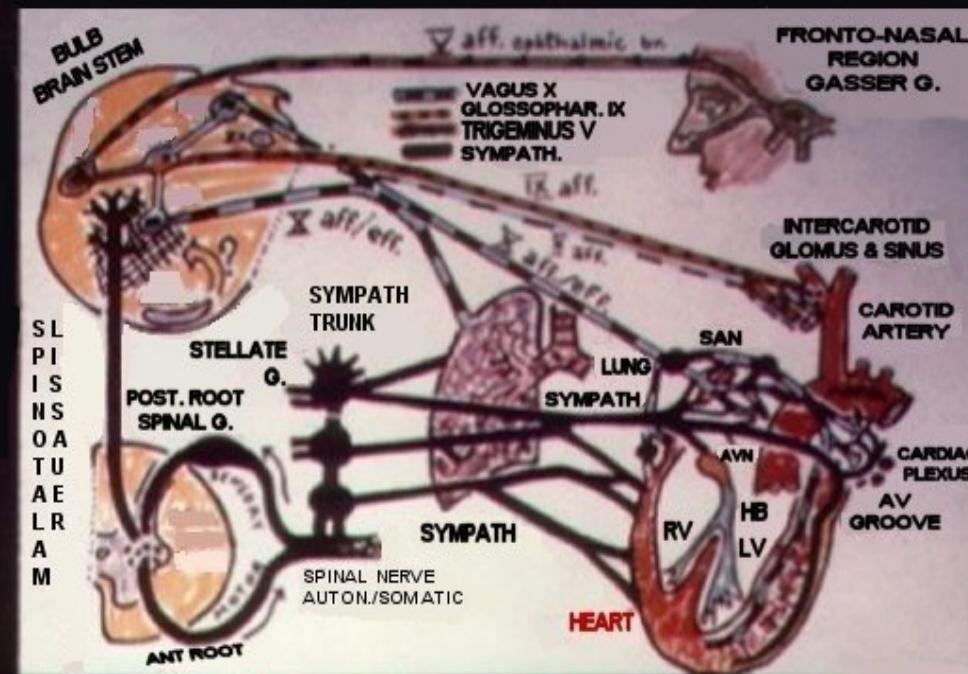
**UNDERDEVELOPED  
CENTRAL SWITCHBOARD**

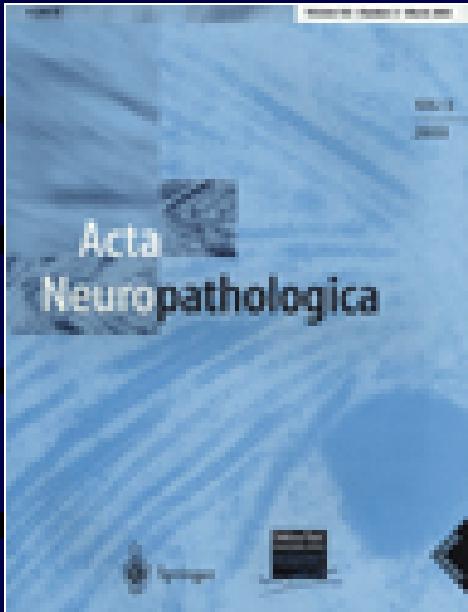


# Sympathetic nervous system



# Parasympathetic nervous system

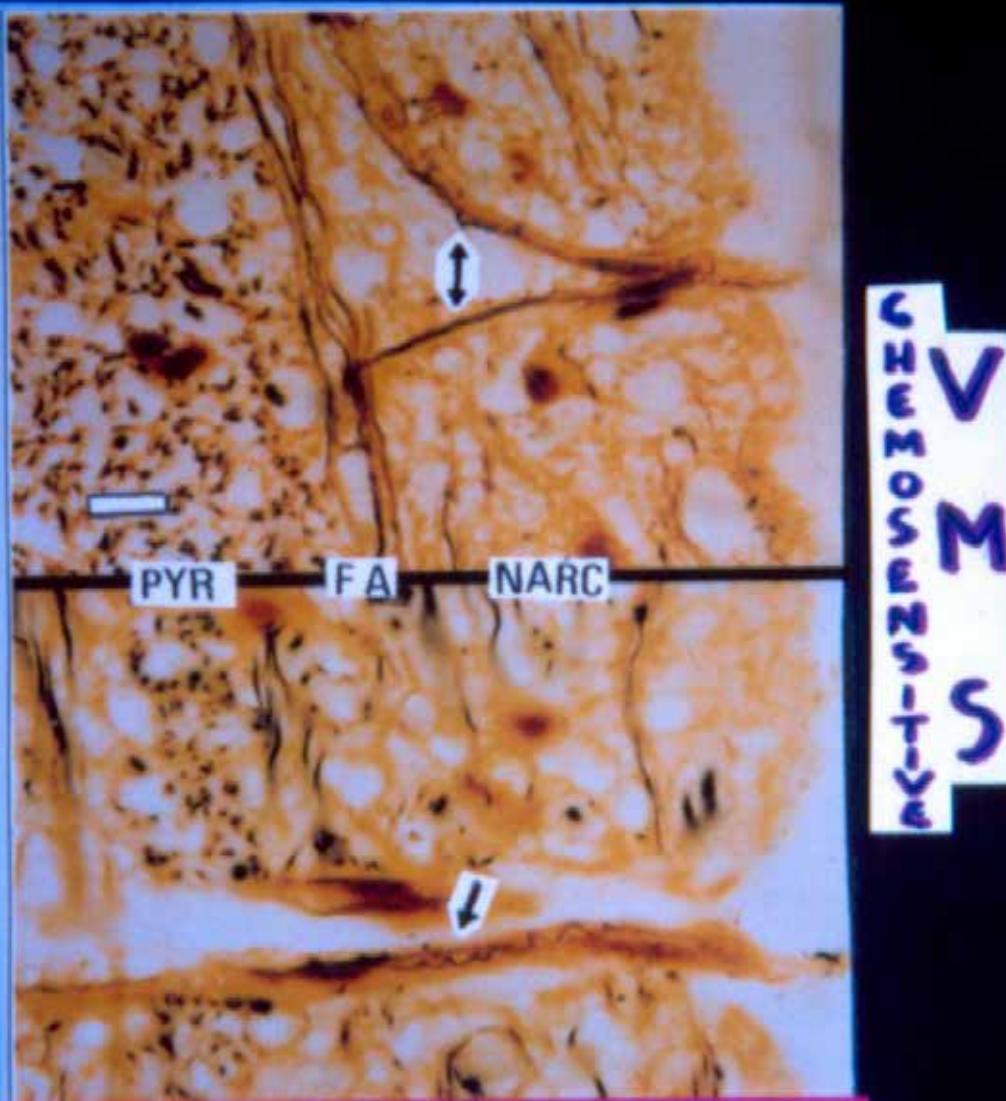




# **Severe Hypoplasia of Medullary Arcuate Nucleus: Quantitative Analysis in Sudden Infant Death Syndrome**

**L. Matturri, B. Biondo, P. Mercurio, L. Rossi**

***Acta Neuropathol 2000; 99: 371-375***

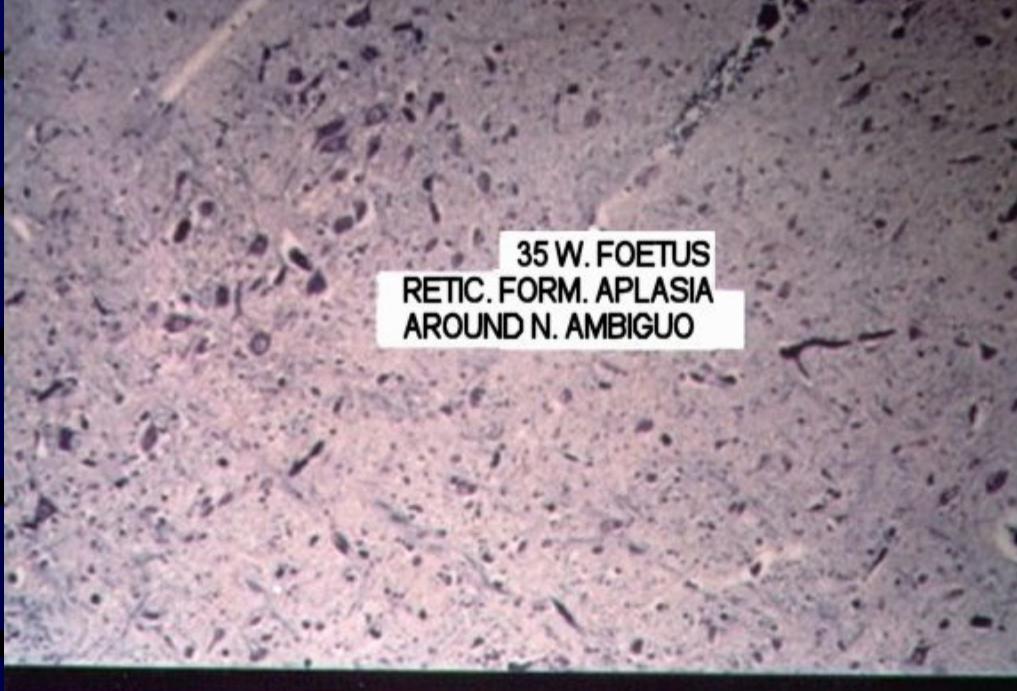


KAPILLARNERVEN (arrows) FROM THE FIBRAE  
ARCUATAE (FA) AT THE PYRAMID (PYR) PERIPHERY,  
CROSS THE N. ARC TO SURFACE ON VENTR.  
MEDULLA LEPTOMENINX CONFIGURATING  
CHEMOSENSITIVE RECEPTORS

## Hypoplasia of Medullary Arcuate Nucleus in Unexpected Late Fetal Death (Stillborn Infants): A Pathologic Study

L. Matturri, I. Minoli, AM. Lavezzi, A. Cappellini, S.G. Ramos, L. Rossi

*Pediatrics* 2002; 109: E43



35 W. FOETUS  
RETIC. FORM. APLASIA  
AROUND N. AMBIGUO



NORMAL RETICULAR FORM.  
36 W. FOETUS & N. AMBIG.

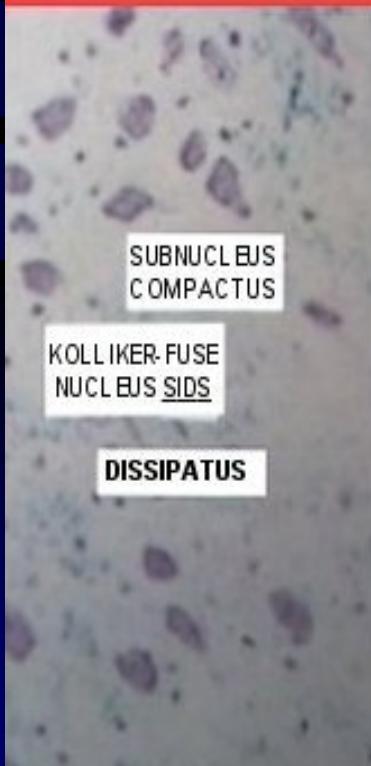


# Preliminary Study on the Cytoarchitecture of the Human Parabrachial / Kölliker-Fuse Complex, with Reference to Sudden Infant Death Syndrome and Sudden Intrauterine Unexplained Death

AM. Lavezzi, G. Ottaviani, G. Ballabio,  
L. Rossi, L. Matturri

*Pediatr Dev Pathol* 2004; 7: 171-179

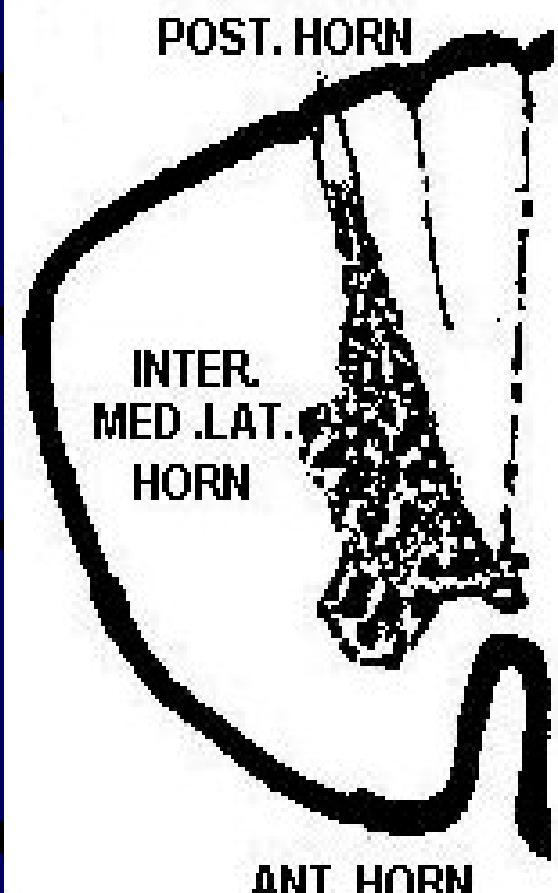
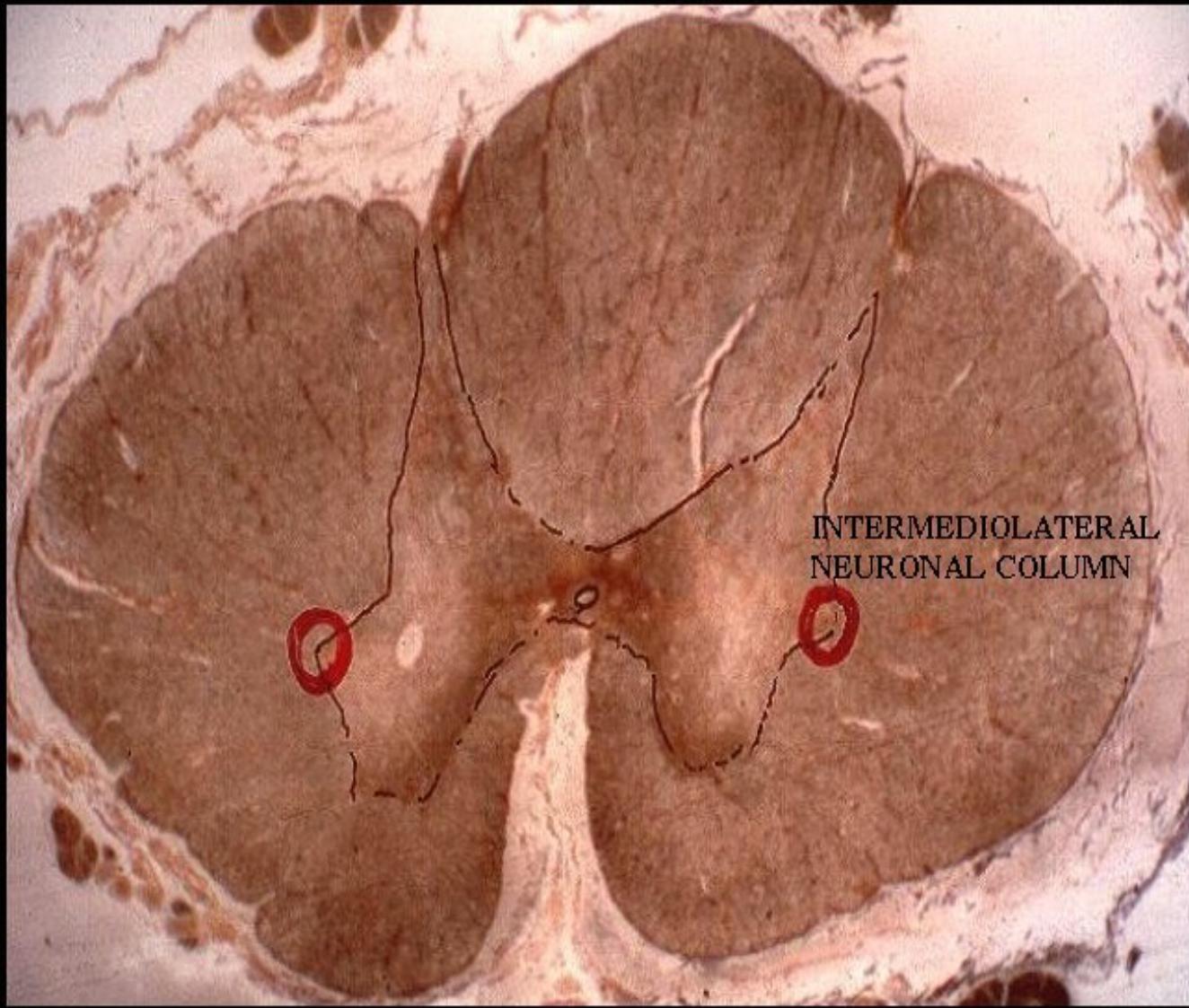
FETUS YAWNS IN UTERO-ABERRANT  
RESPIRATORY REFLEX OF PONTINE  
N. KOLLIKER-FUSE

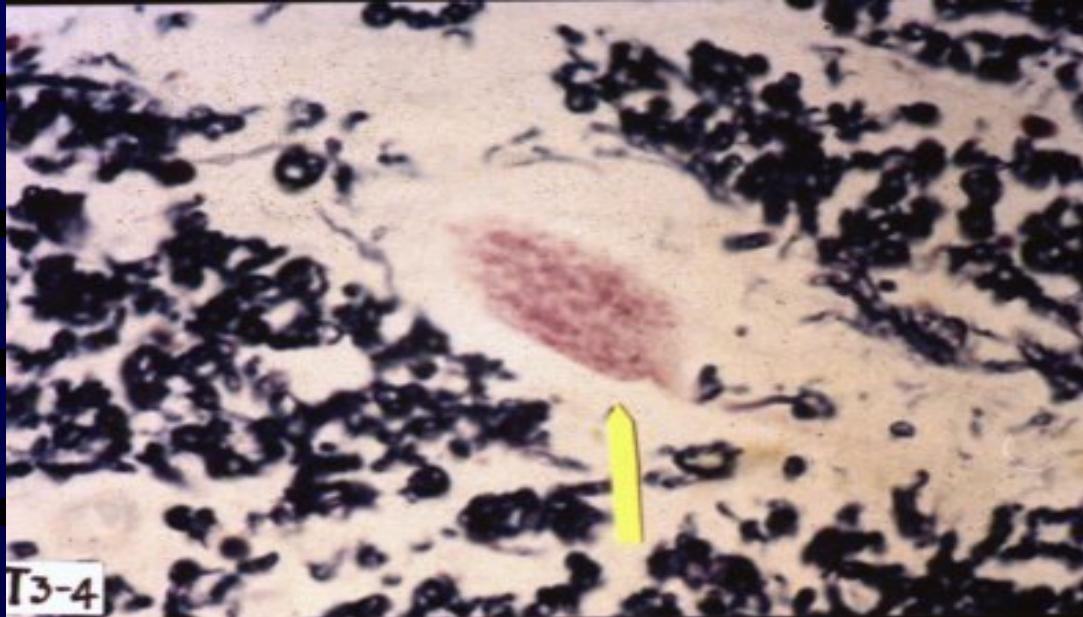


N. KOLLIKER-FUSE ACTS  
AS STRONG INHIBITOR  
OF FETAL RESPIRATORY  
REFLEX, BUT, PARADOXICALLY  
UPON DELIVERY IT ACTS  
TOGETHER WITH THE  
RESPIRATORY CENTRES

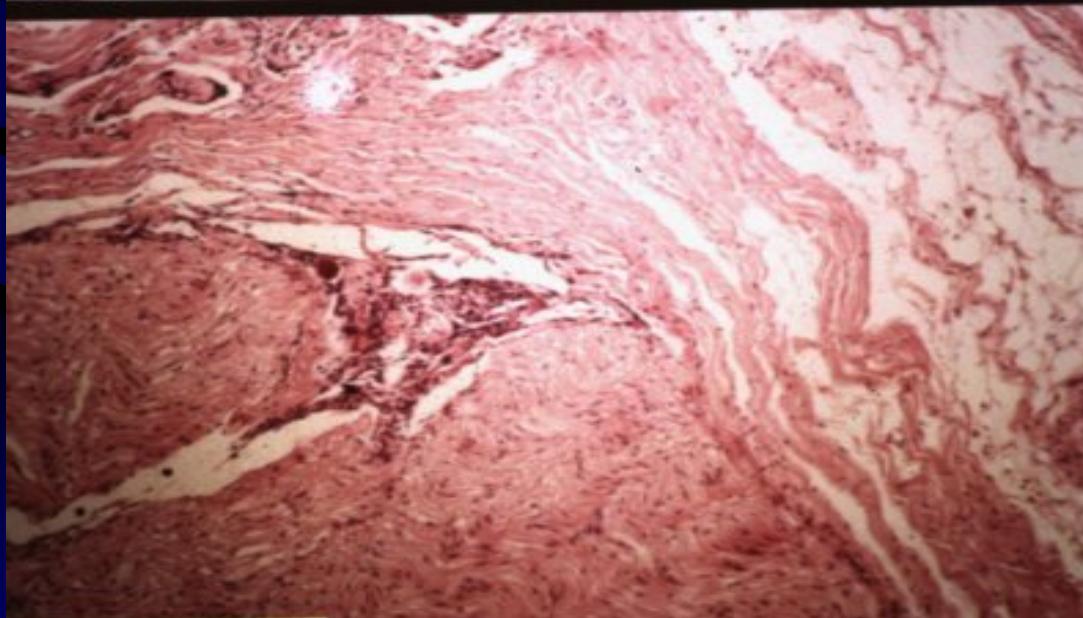
This ill-known reflex blocking center, in near term fetus is accounted for the strong inhibitory action of chemoreflexogenesis that prevents potentially lethal active respiratory motions of the fetus.

In turn, upon a still indefinite phase of partum, the parabrachial Kölliker -Fuse complex quickly reverts to an active respiratory-facilitatory function that means it to be actually regrouped among the respiratory centers in human physiology.



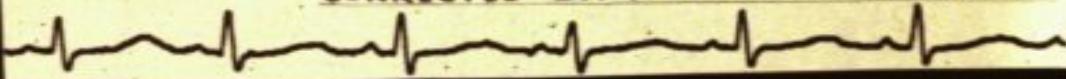


TIGROLYSIS IN N. INTERMEDIOLAT. + PACHYMENTINGEAL RADICULITIS



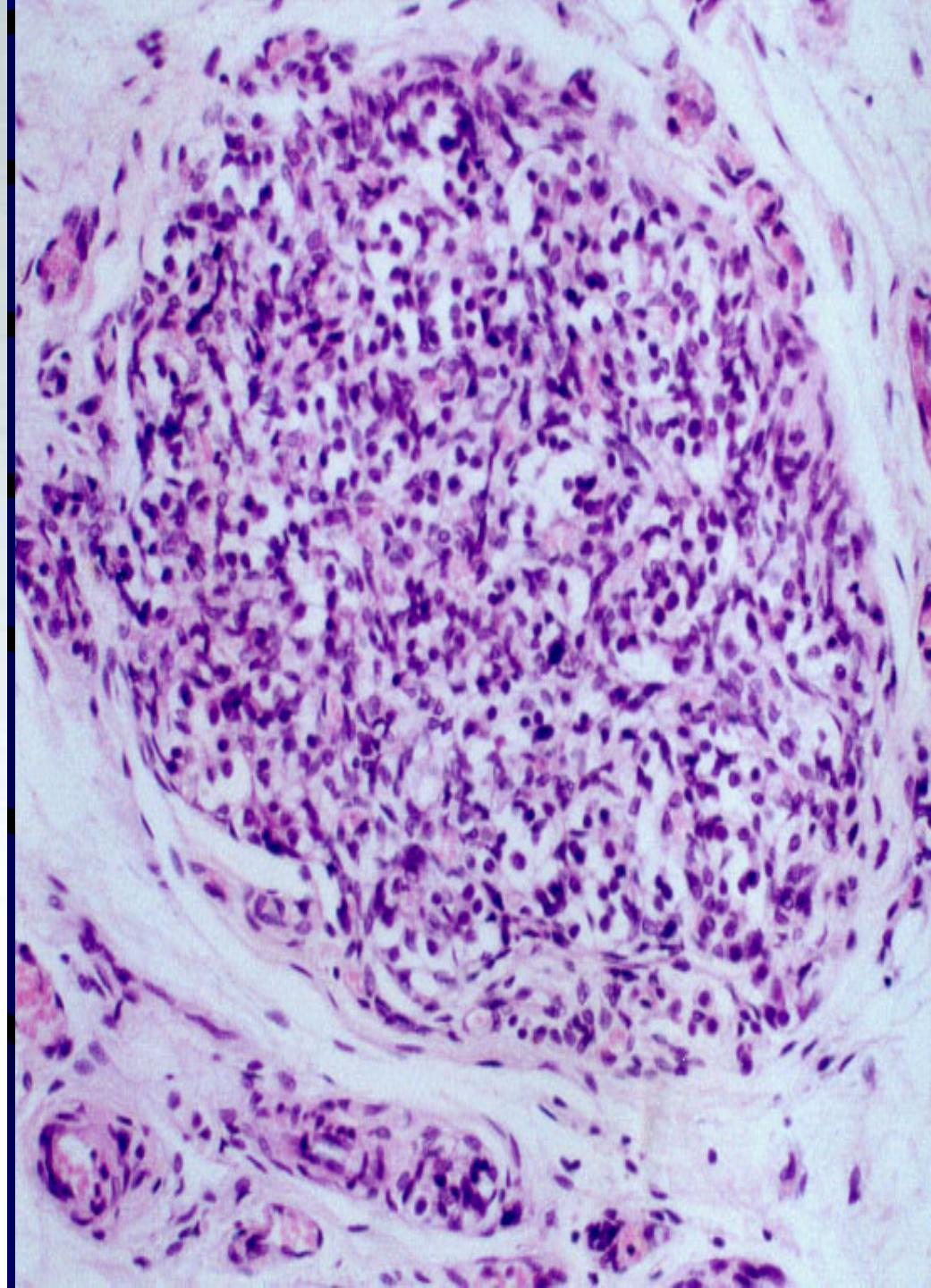
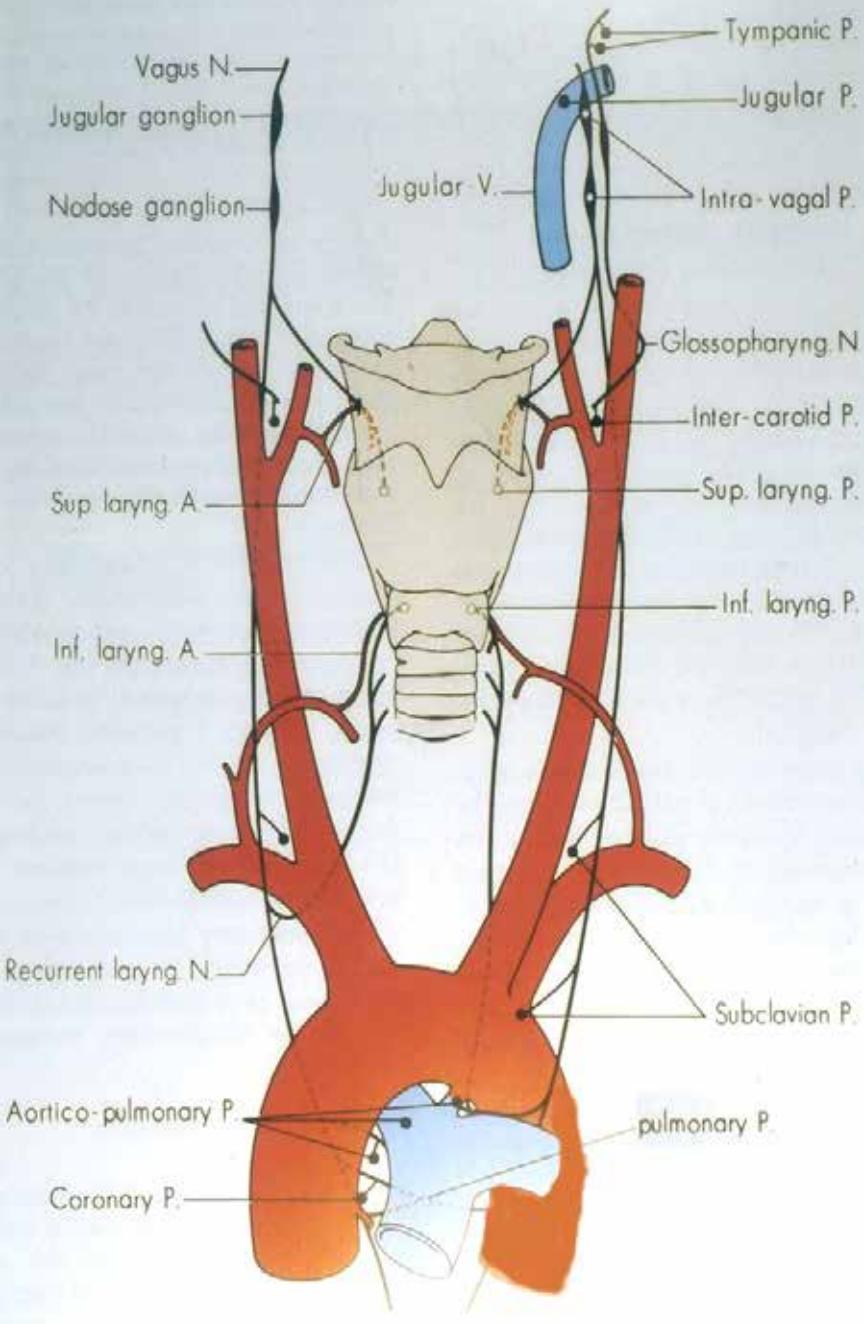
aVL rate 120/min

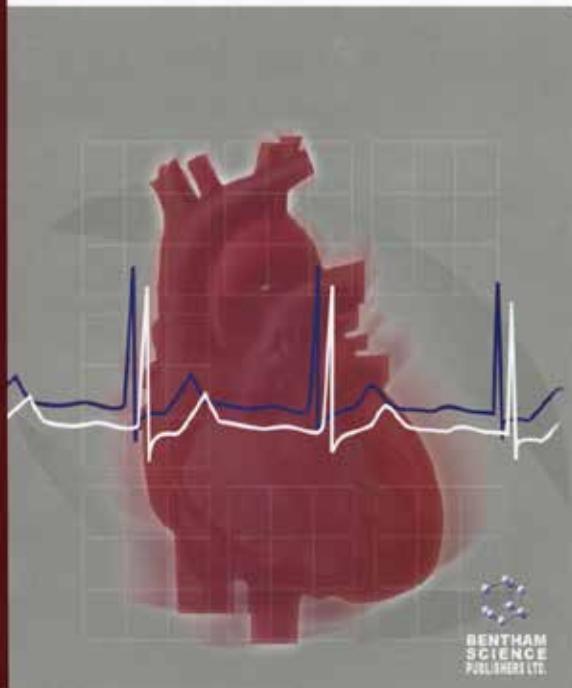
CORRECTED QT (Korjalainen 1994) 475 ms



# **Sistema Nervoso Autonomo Cardiorespiratorio Periferico**

- A) Plessi gangliari e paragangliari mediastinici
- B) Biforcazione carotidea
- C) Gangli simpatici (gangli stellato e cervicale superiore)

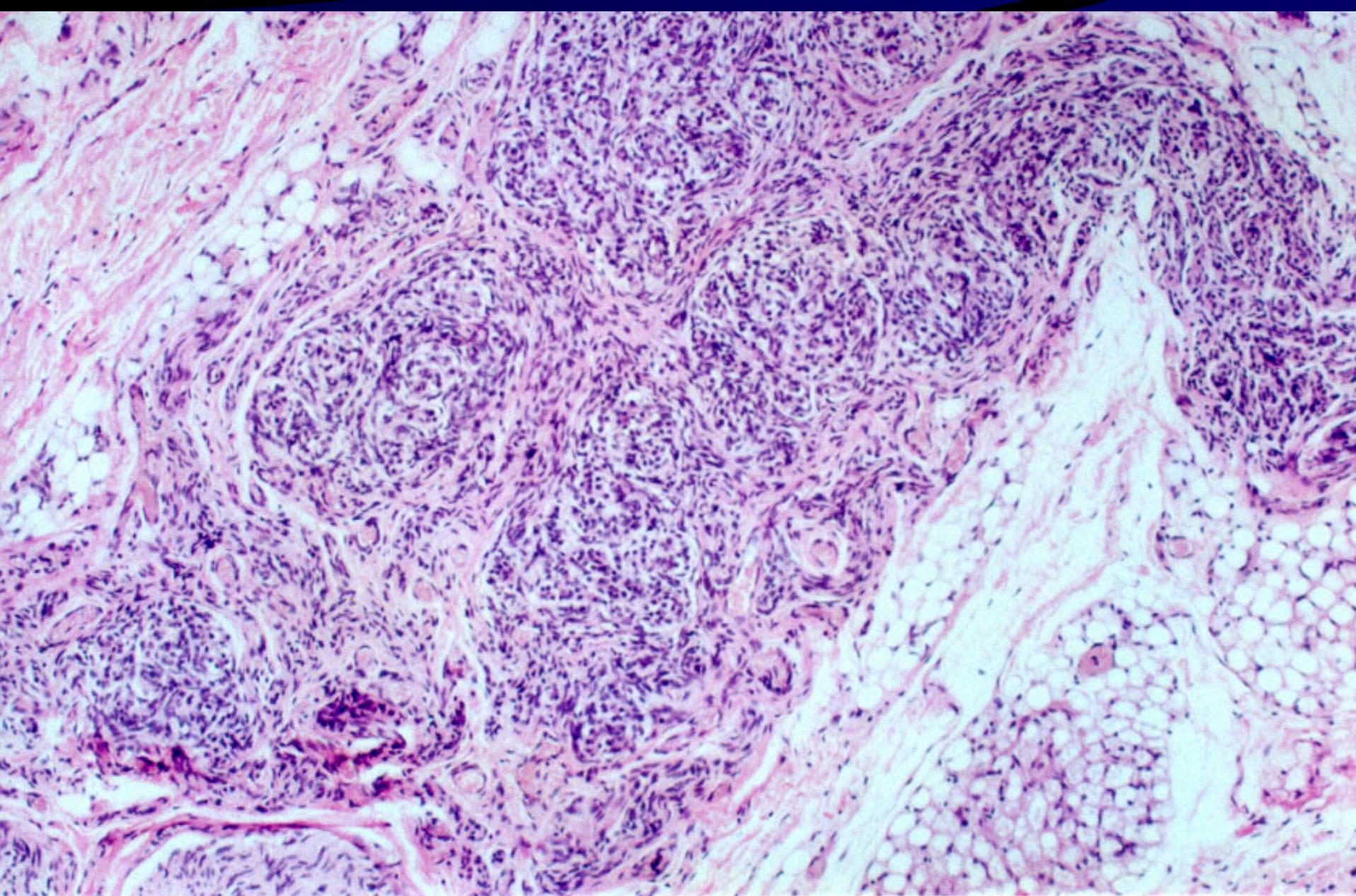




# **Peripheral Chemoreceptors and Sudden Infant Death Syndrome: A Wide Open Problem**

**L.Matturri, G. Ottaviani, A.M.Lavezzi, S.G.Ramos,  
L. Rossi**

***Curr Cardiol Rev 2005; 1: 65-70***

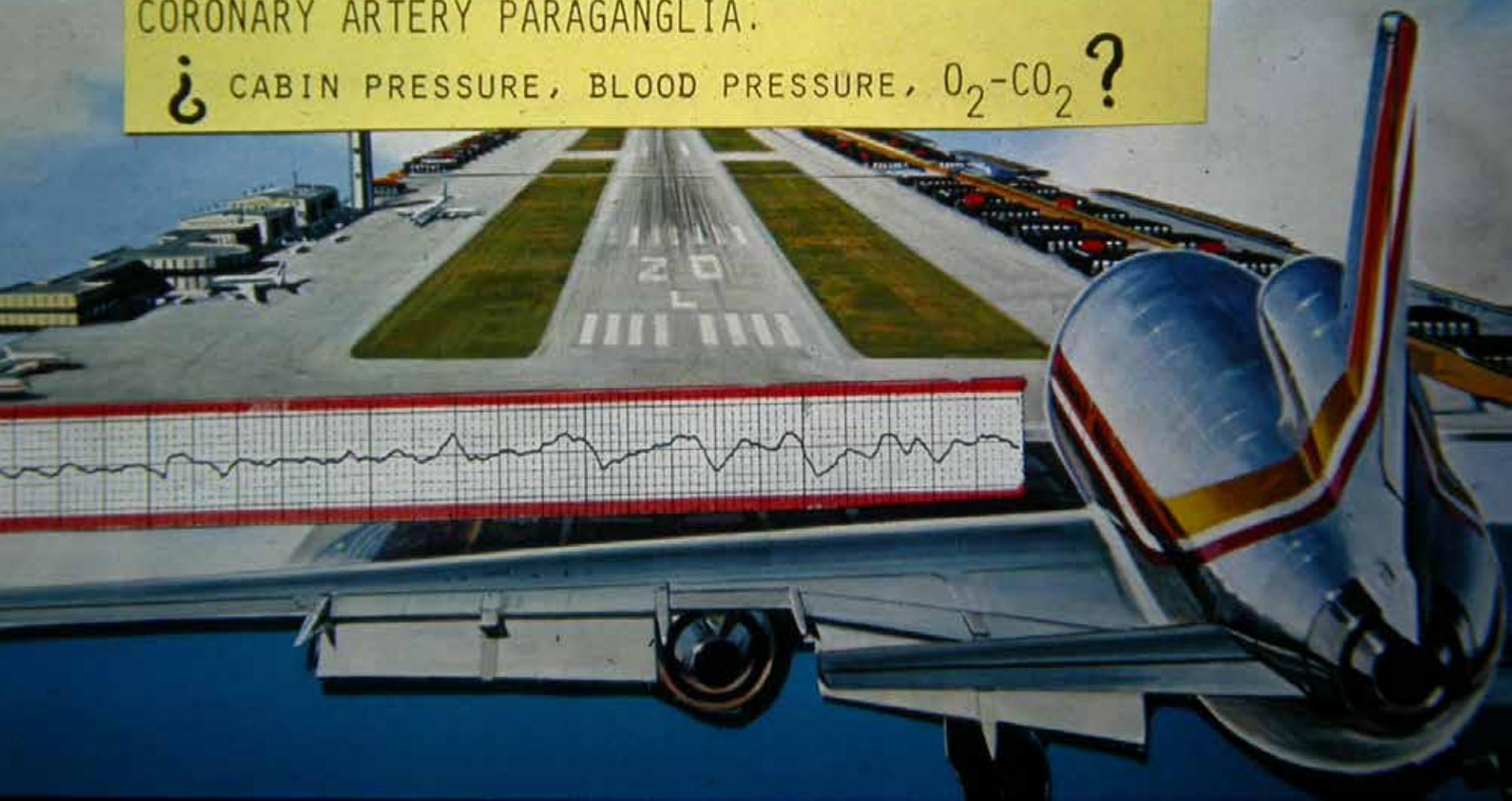


♂ 40 YR.; NEG. CARDIOVASCULAR STANDARD CHECKUPS;  
SEVERE PALPITATION & DIZZINESS WHENEVER FLYING  
PRESSURIZED AIRLINERS.

**SCD** FROM **VF**, ON THE LANDING STRIP.

CARDIAC HYPERACUTE ISCHEMIA; OCCLUSIVE ORGANIZED  
THROMBOSIS OF INTERTRUNCAL ARTERY & ATROPHIC LEFT  
CORONARY ARTERY PARAGANGLIA.

i CABIN PRESSURE, BLOOD PRESSURE, O<sub>2</sub>-CO<sub>2</sub> ?



CORONARY  
GLOMUS

intertruncal  
artery

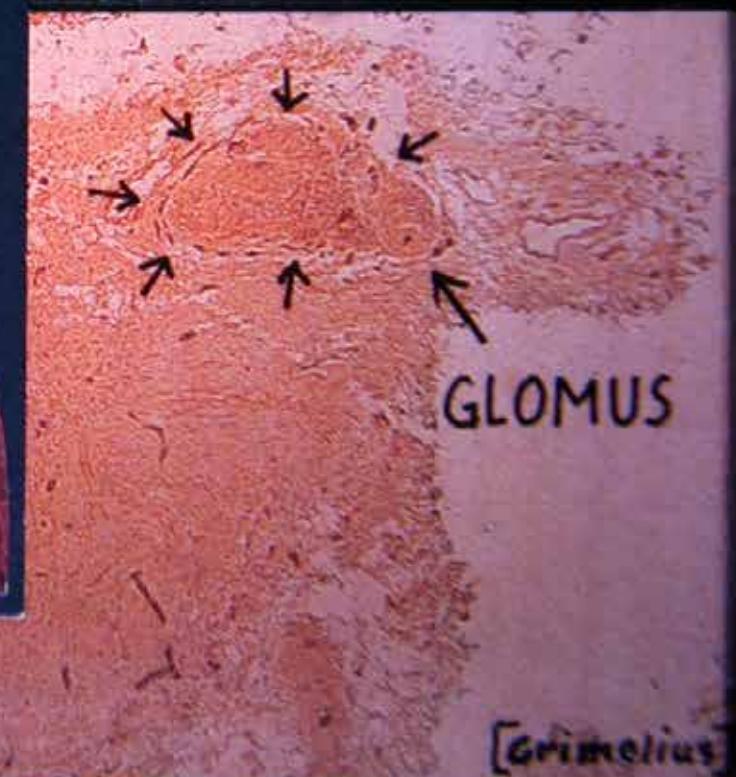
Ao

P

L. coron.art.

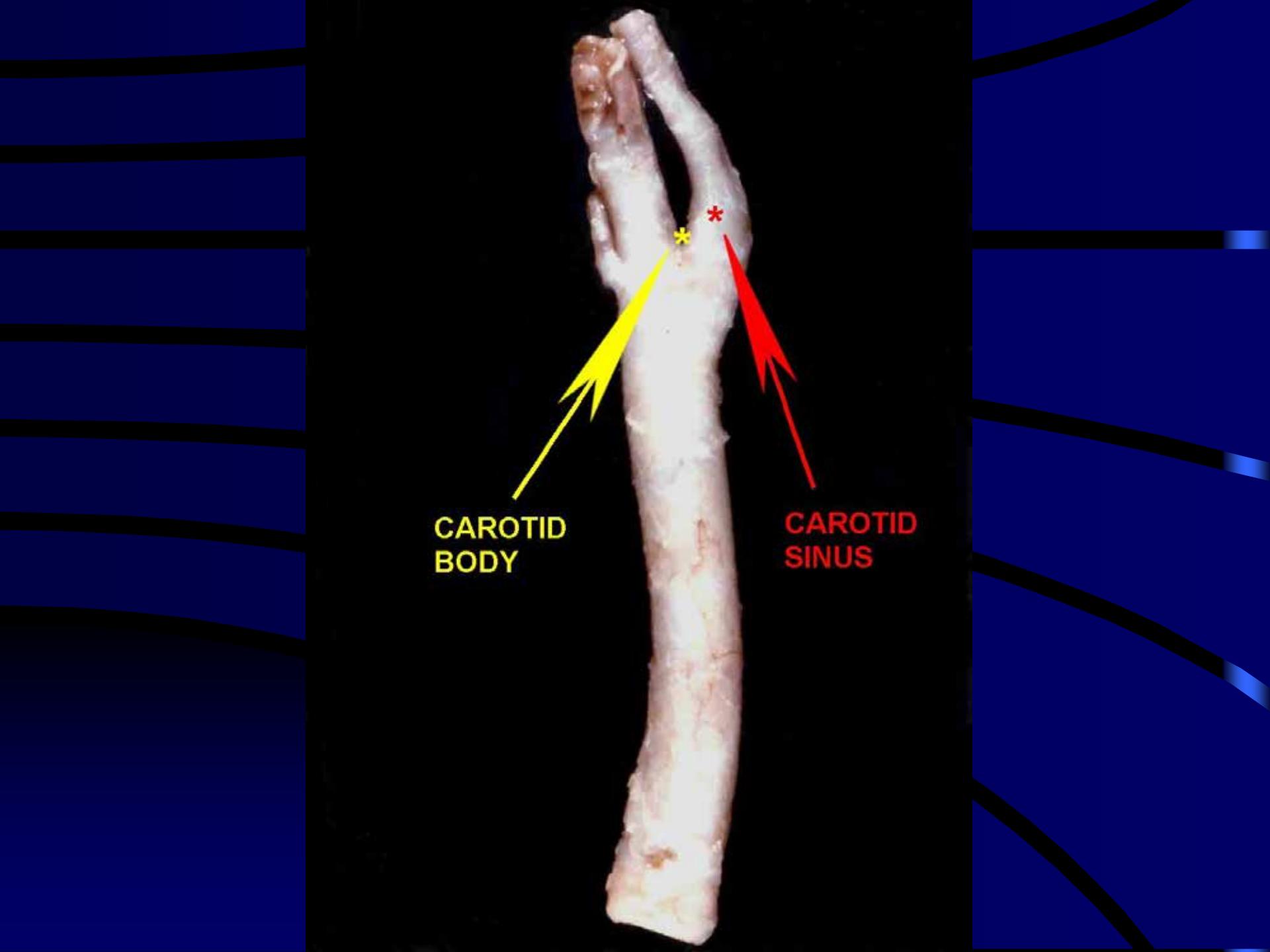
INTERTRUNCAL ART.

[Grimelius]



A histological section of a fish trunk, stained with haematoxylin. The image shows various muscle layers and connective tissue. Handwritten labels are present on the left side:

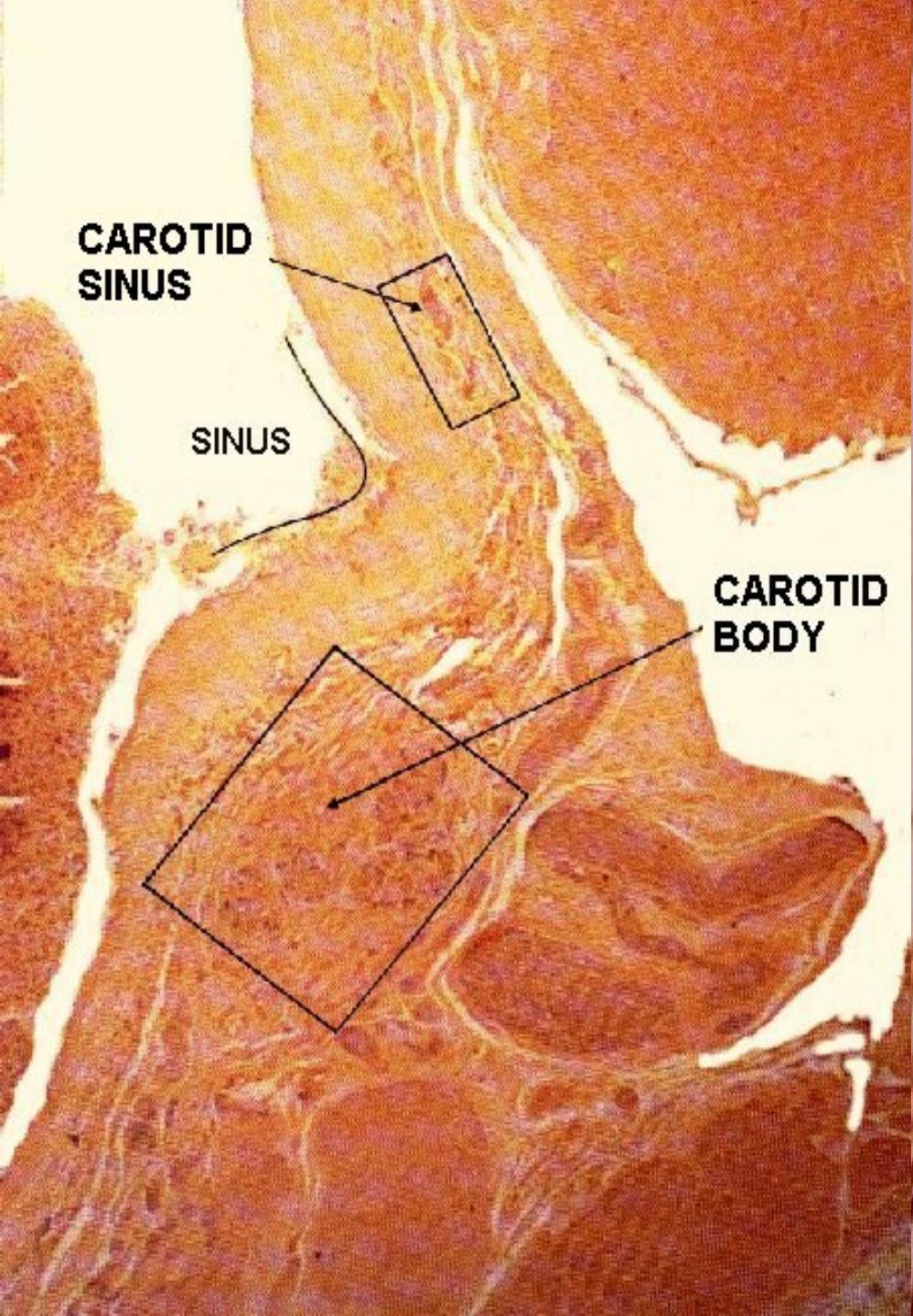
LEFT COR GLOMUS INTERTRUNCAL ART



A photograph of a human carotid artery specimen against a black background. Two anatomical structures are highlighted: the carotid body, indicated by a yellow lightning bolt-shaped arrow, and the carotid sinus, indicated by a red arrow. Both structures are located on the upper, bulbous portion of the artery. A yellow asterisk marks the carotid body, and a red asterisk marks the carotid sinus.

CAROTID  
BODY

CAROTID  
SINUS



KRAUSE'S CLUB



RECETTORI INTERCAROTIDEI "SCONOSCIUTI"

GLOMO INTRA-  
SINUSALE



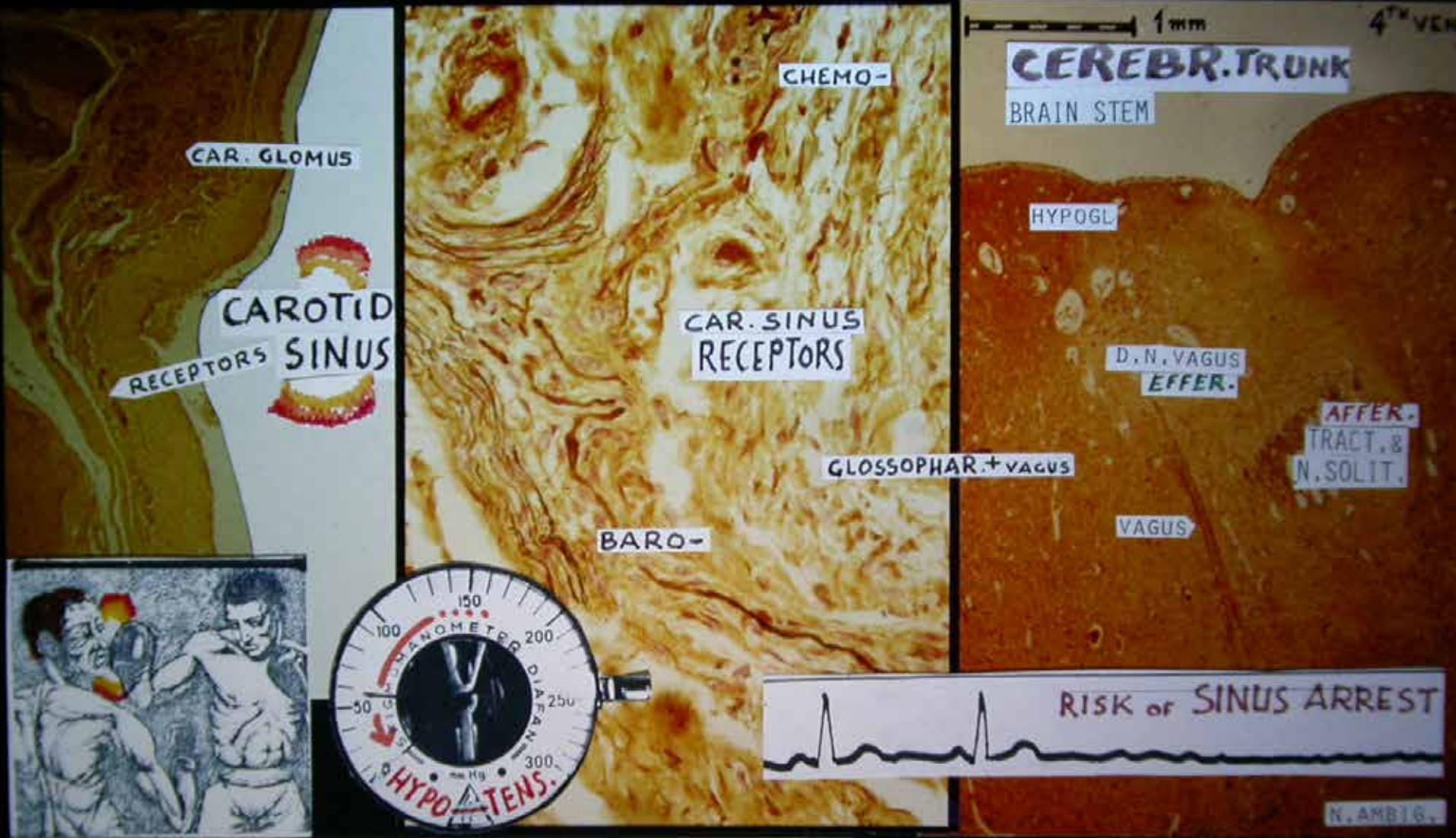
TERMINALI

NERVOSI

GLOMO INTRA-  
VAGALE



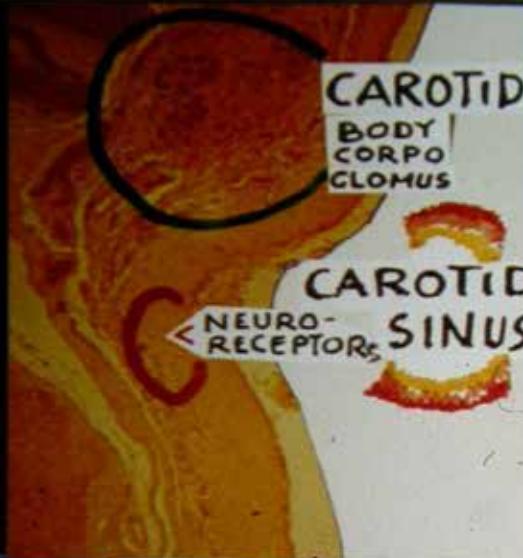
N.VAGO



**UPPER-CUT & DOWN-FALL : A CLASSICAL MECHANISM FOR  
REFLEXOGENIC SCD - A SCHEME OF HISTOLOGIC SUBSTRATES -**

# INTERCAROTID AREA

## Glossopharyngeal cardiac syncope



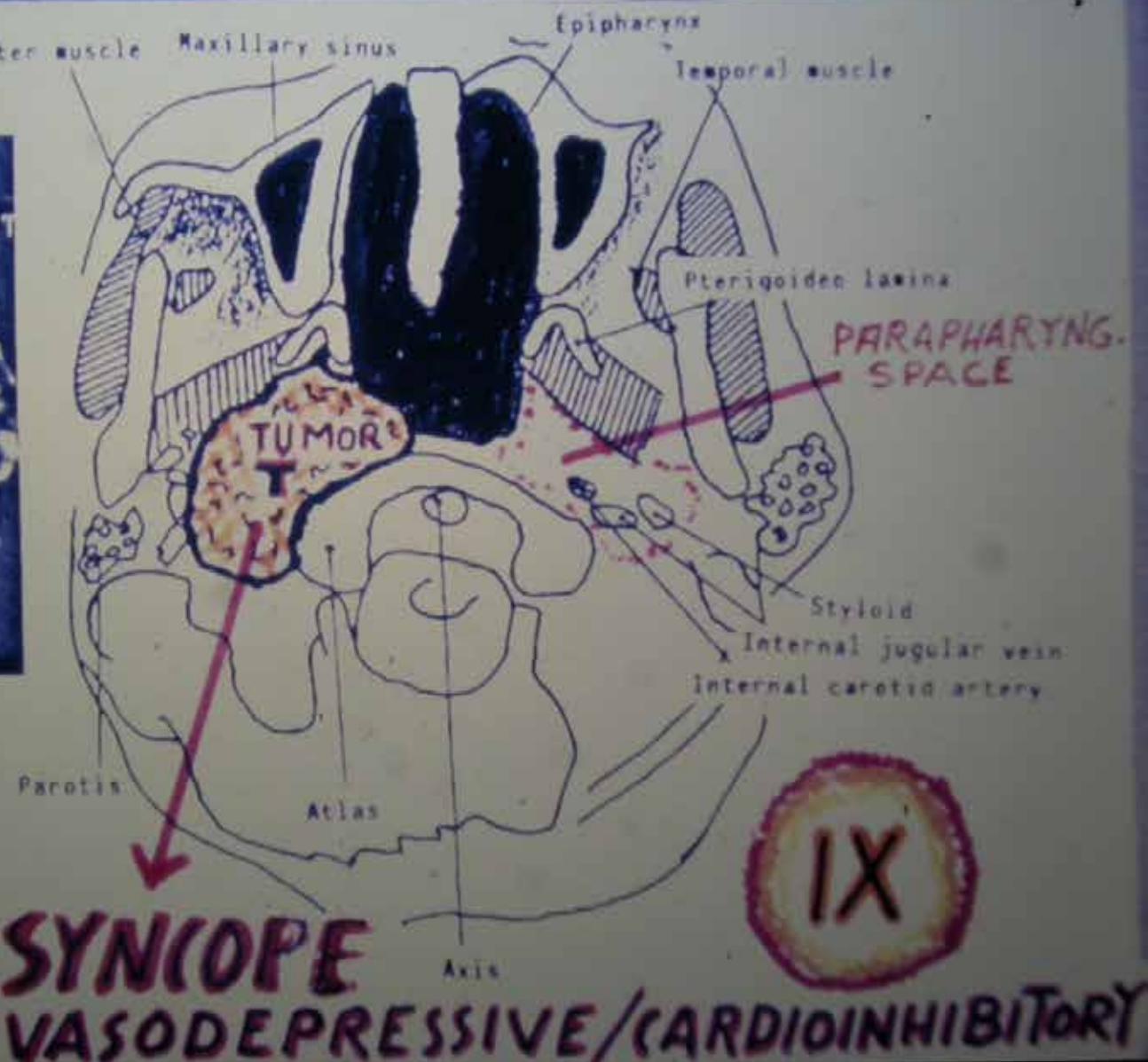
carotid choke hold - a police technique severely curbed in 1983 after police had killed 16 suspects with it - (L.A. 1993)



# Parapharyngeal space lesions syncope-syndrome

## A newly proposed reflexogenic cardiovascular syndrome

CICOGNA-VISIOLI-ROSSI, ET AL.: European Heart Journal (1993) 14, 1476



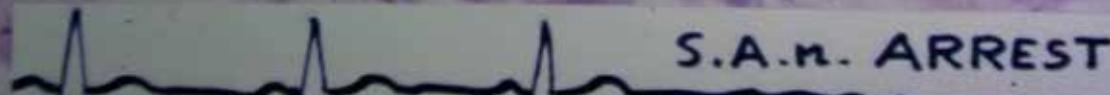


## GLOSSOPHARYNGEAL NEURALGIA → SYNCOPE

Carotid Sinus  
baroreceptor  
IX Nerve endings

Krause-Kolben

Glossopharyngeal n.



R. Trevor Johnston, Vincent J Redding *Br Heart J* 1990;64:603-5

CAROTID SINUS → N. TRACTUS SOLITAR. SCD

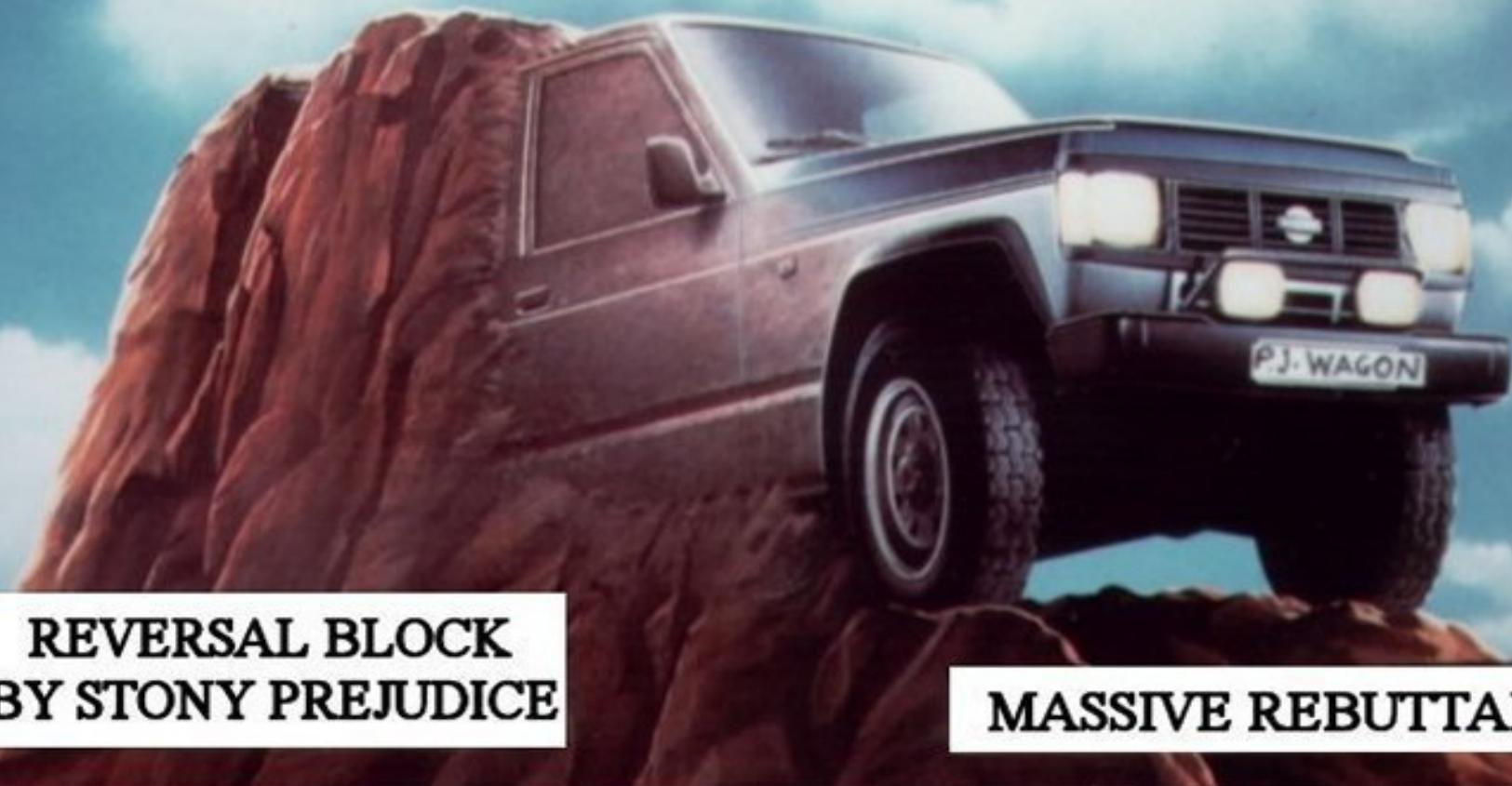
AUTONOMIC  
IMBALANCE  
DISTURBING  
REPOLARIZ.  
LQT



**"98-2000 LQT = SIDS" OPINIONATED OPINION**

**OUT RIGHT OVERSTAT ED  
"PROBABLY NO LESS THAN 30-35% OF INFANTS"**

**MY OWN VIEW POINT IS ABSOLUTELY UNCHANGED**

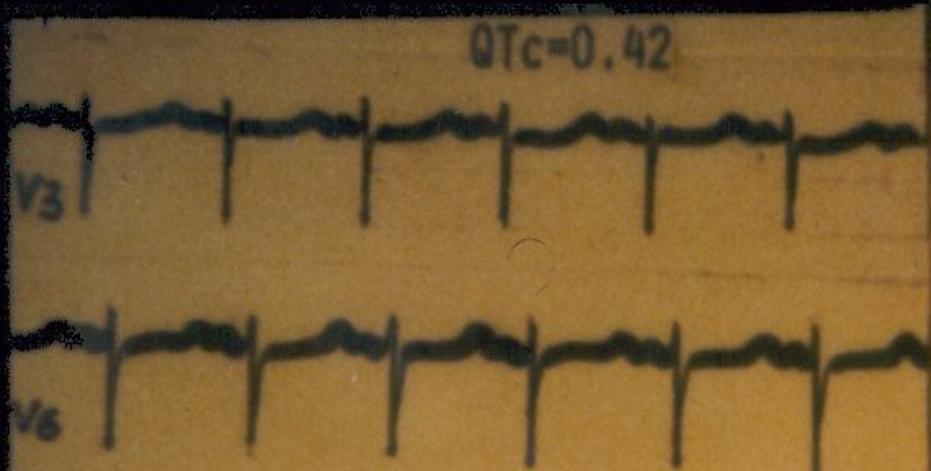


**REVERSAL BLOCK  
BY STONY PREJUDICE**

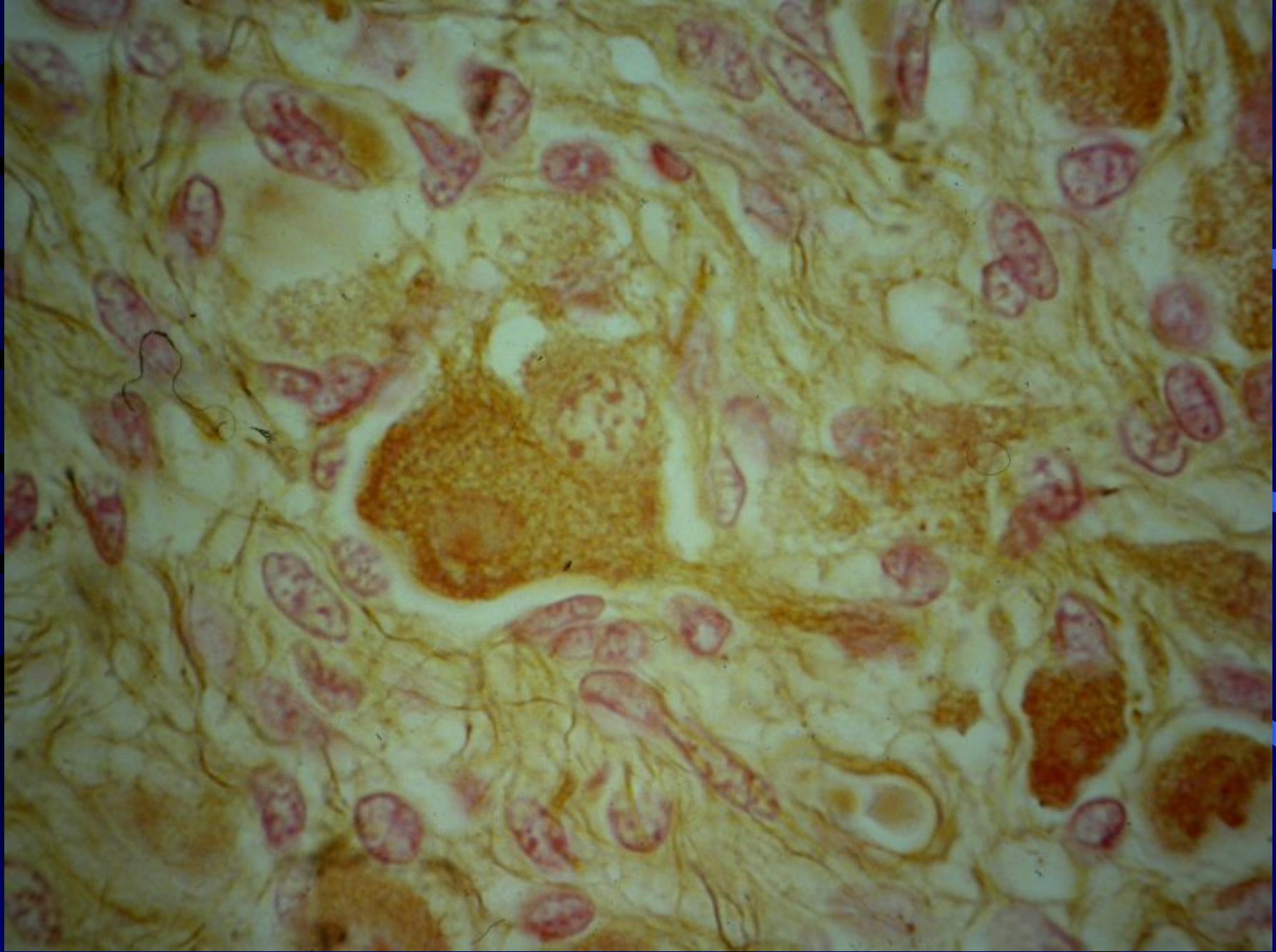
**MASSIVE REBUTTAL**

LOT/SIDS

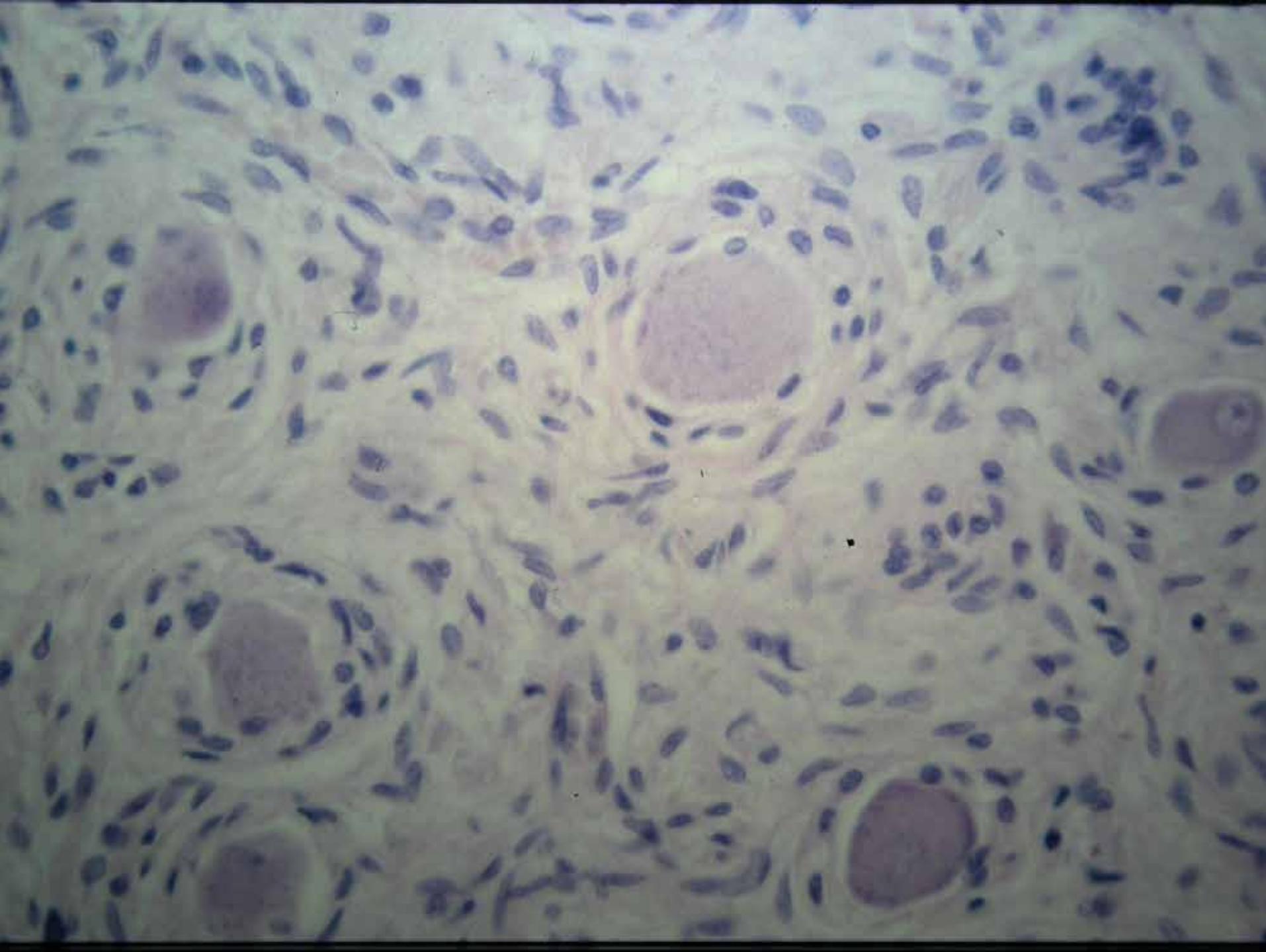
QTc=0.42

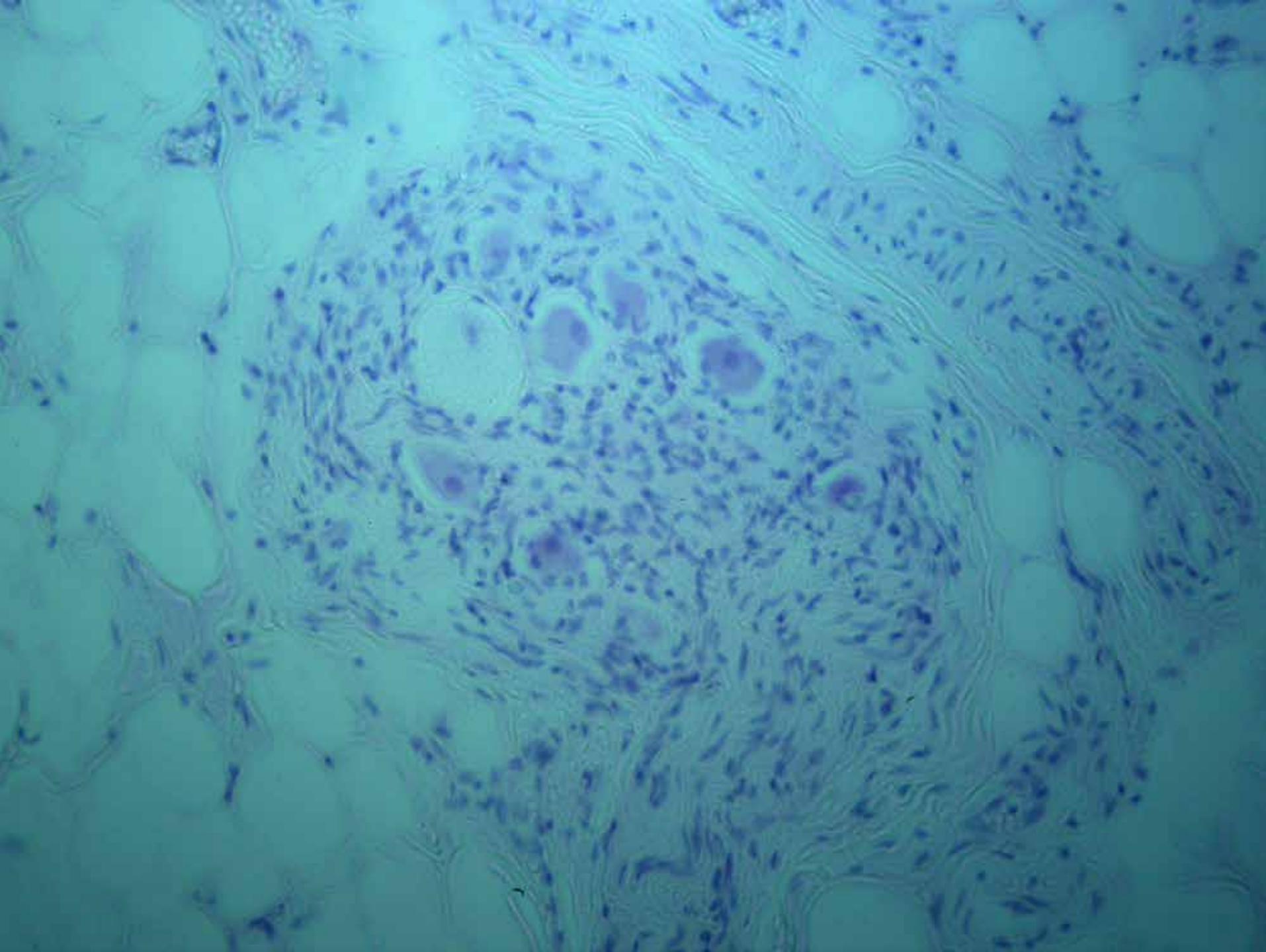


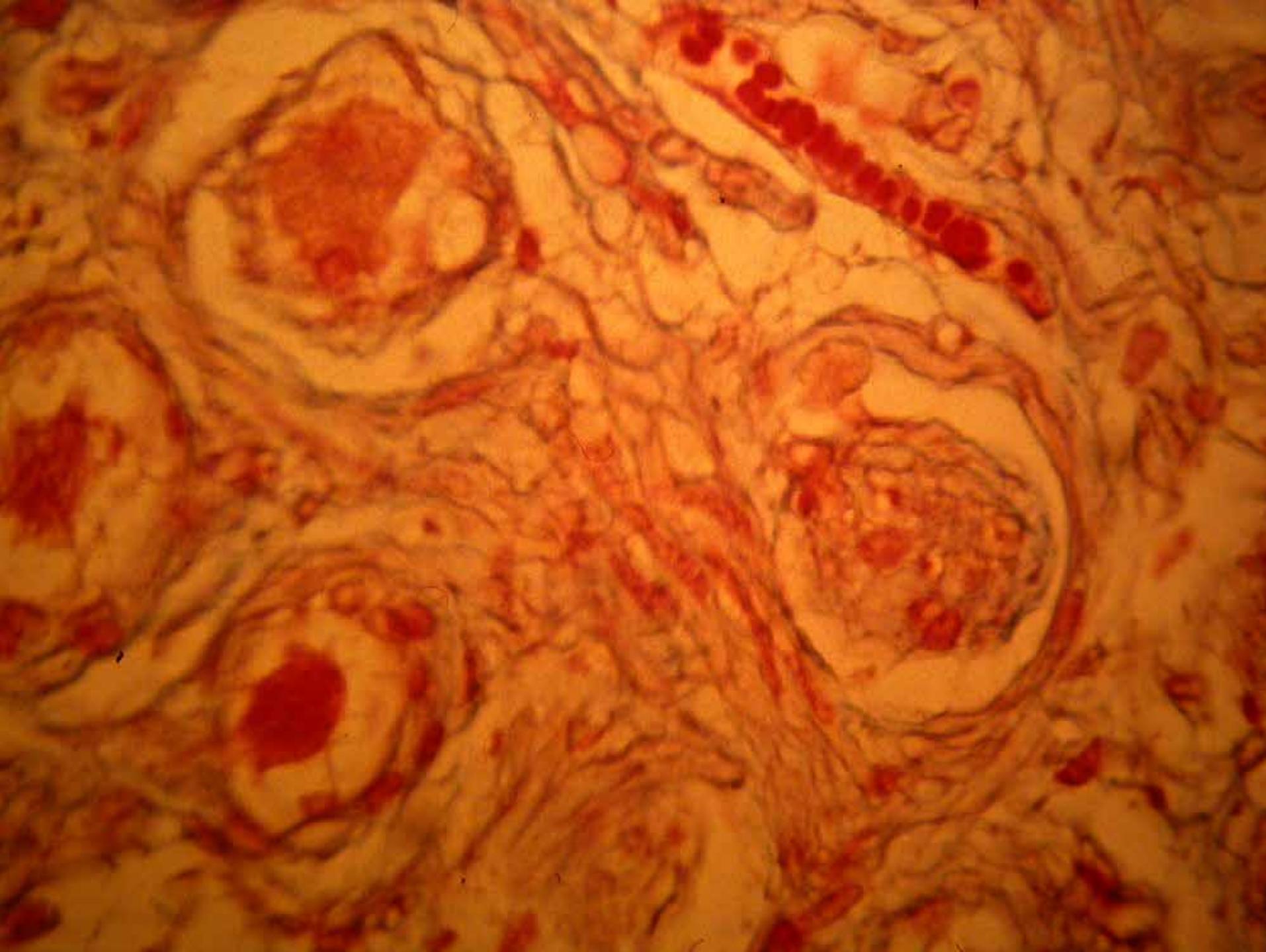
L.SUP.CERVIC.GANGLION NEURON IMMATURITY



LQT/SIDS ganglio nodoso







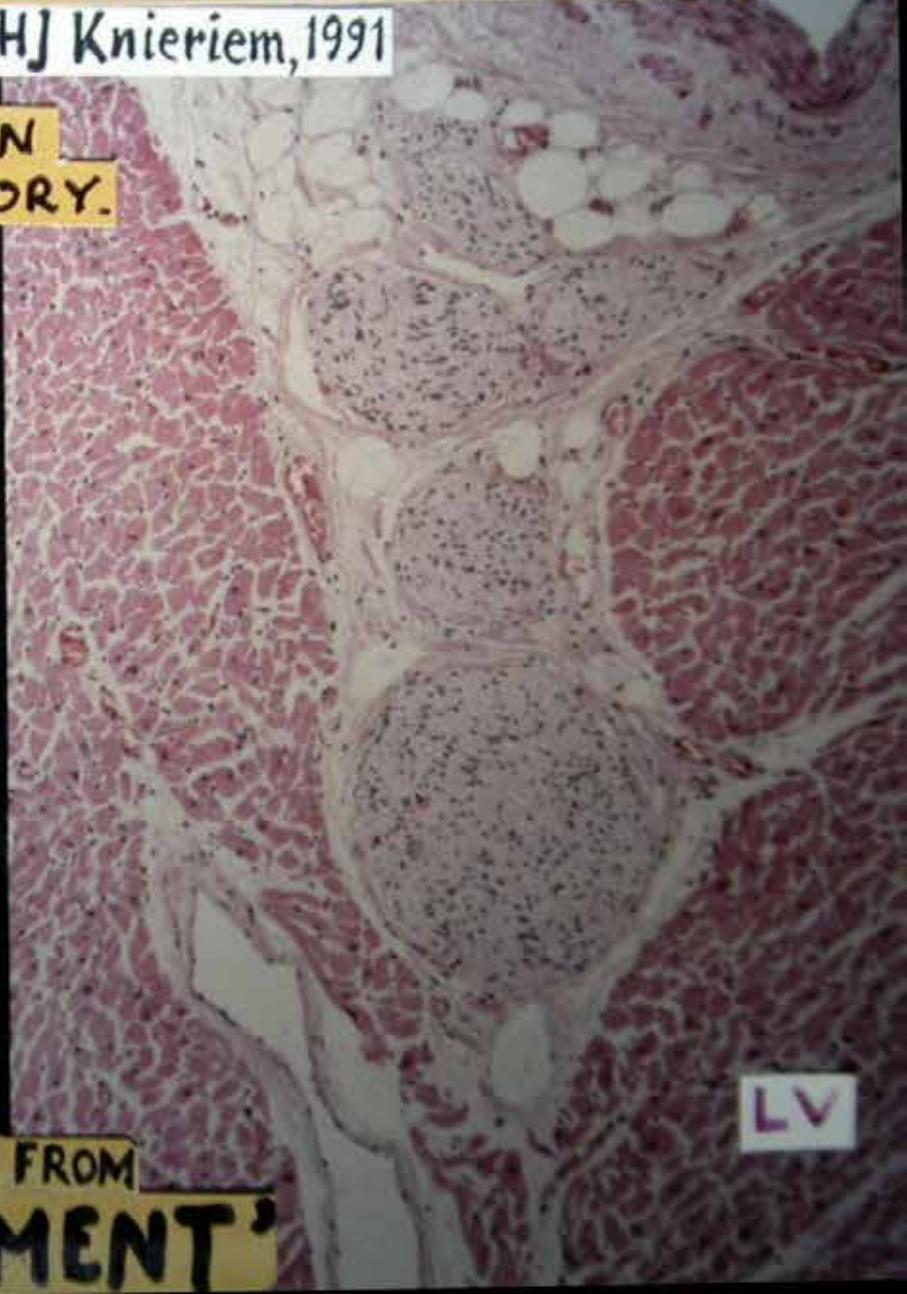
# SCD IN NEUROMATOSIS CORDIS

HJ Knieriem, 1991

A 15 YR O<sup>M</sup>, WITH V. RECKLINGHAUSEN  
& HIRSCHPRUNG DIS. IN FAMILY HISTORY.

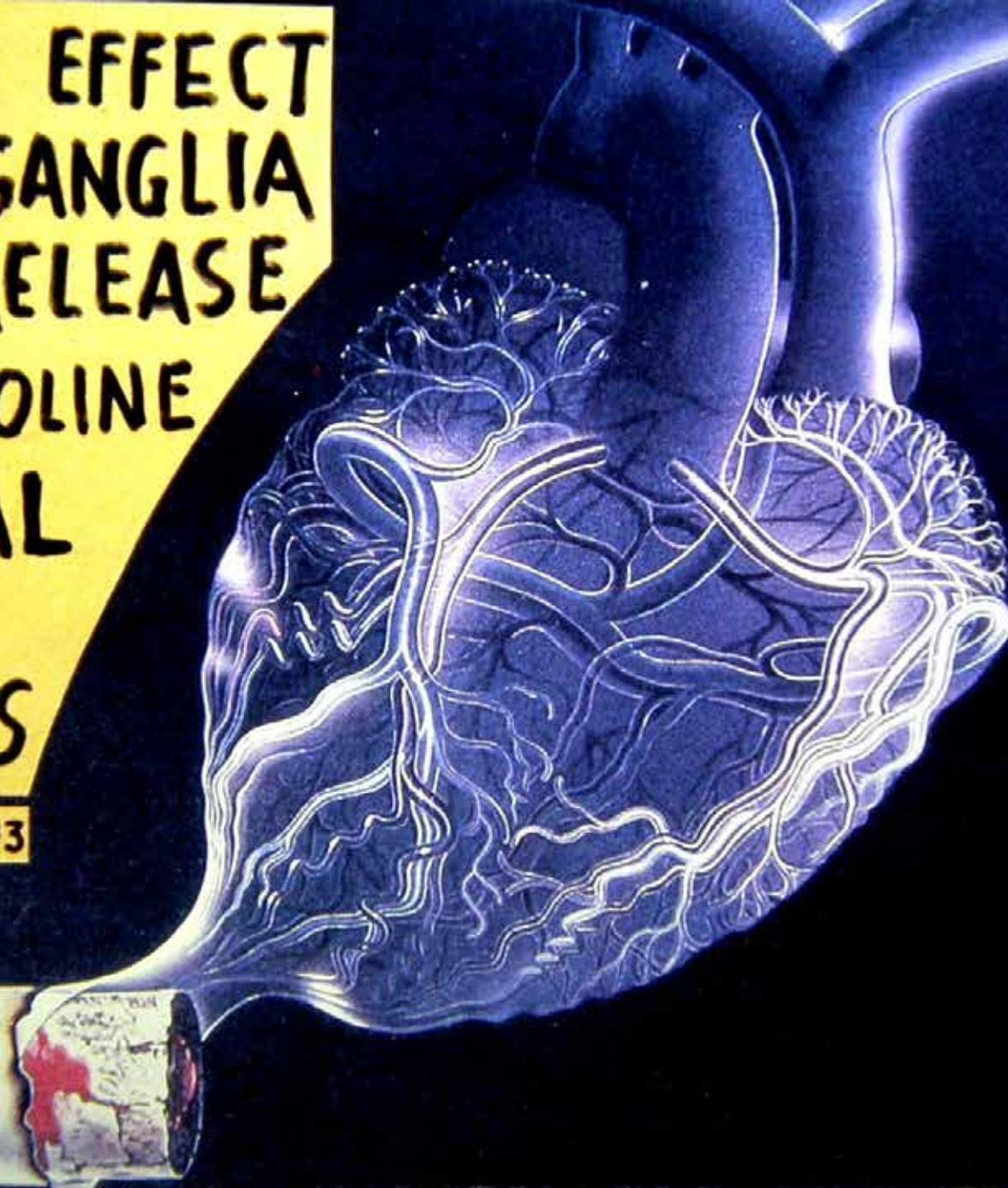


WITHIN MINUTES FROM  
A 'SMOKING TOURNAMENT'



NICOTINE EFFECT  
ON HEART GANGLIA  
INDUCES RELEASE  
OF ACETYLCHOLINE  
FROM VAGAL  
NERVE  
TERMINALS

WATANABE AM, 1983

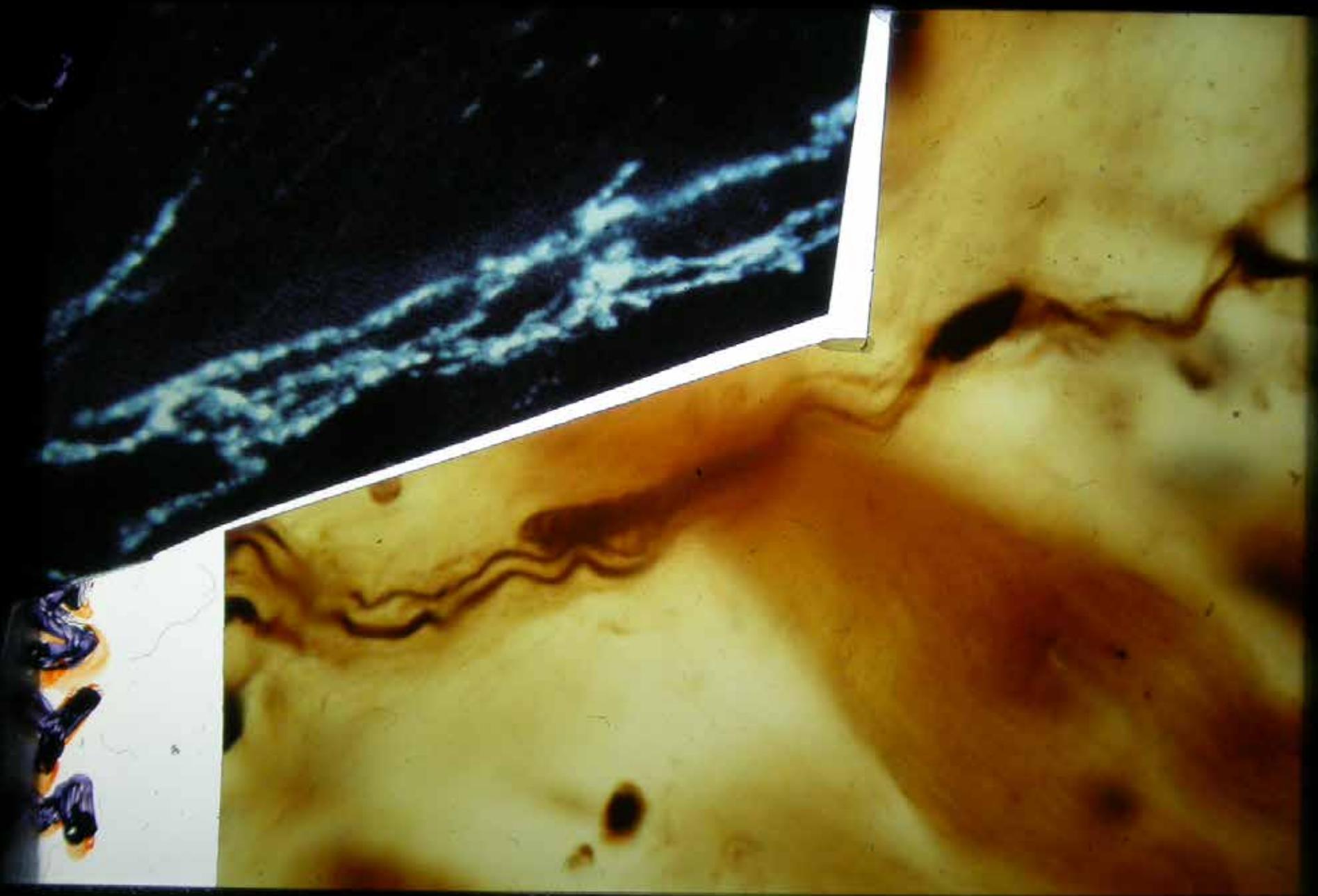




Abel E. Moreyra, et al. (AM HEART J 1992;124:392.)

-CATECHOLAM. INJURY?-

•••• coronary vasoconstrictive effect of cigarette smoking





*minacce Usa di boicottaggio per i mondiali di hockey*

**un atleta rischia dieci anni**

*PER IMPERIZIA PERITALE*

**PUÒ UNA BASTONATA ARRESTARE UN CUORE SANO?**



**WHEN  
YOU'RE TAKING  
RISKS YOU  
DON'T WANT  
TO TAKE  
CHANCES**

In the midst of fierce competition

**INDICTED FOR MURDER  
ACQUITTED WITH A FINE**



# Hockey mortale



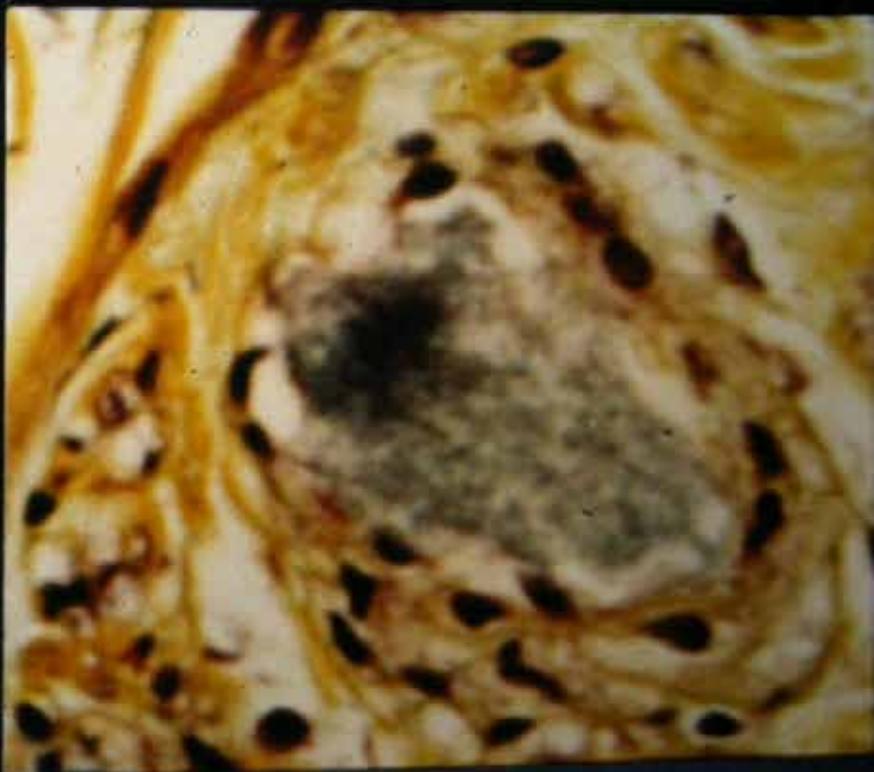
Courmayeur, 14-1-1992: il colpo

NON EVIDENZA  
DI TRAUMA  
ALL'AUTOPSIA.  
SINCOPE DA  
RIFLESSO TIPO  
BEZOLD-JARISCH  
IN PERICARDIO-NEUROPATHIA S.A.

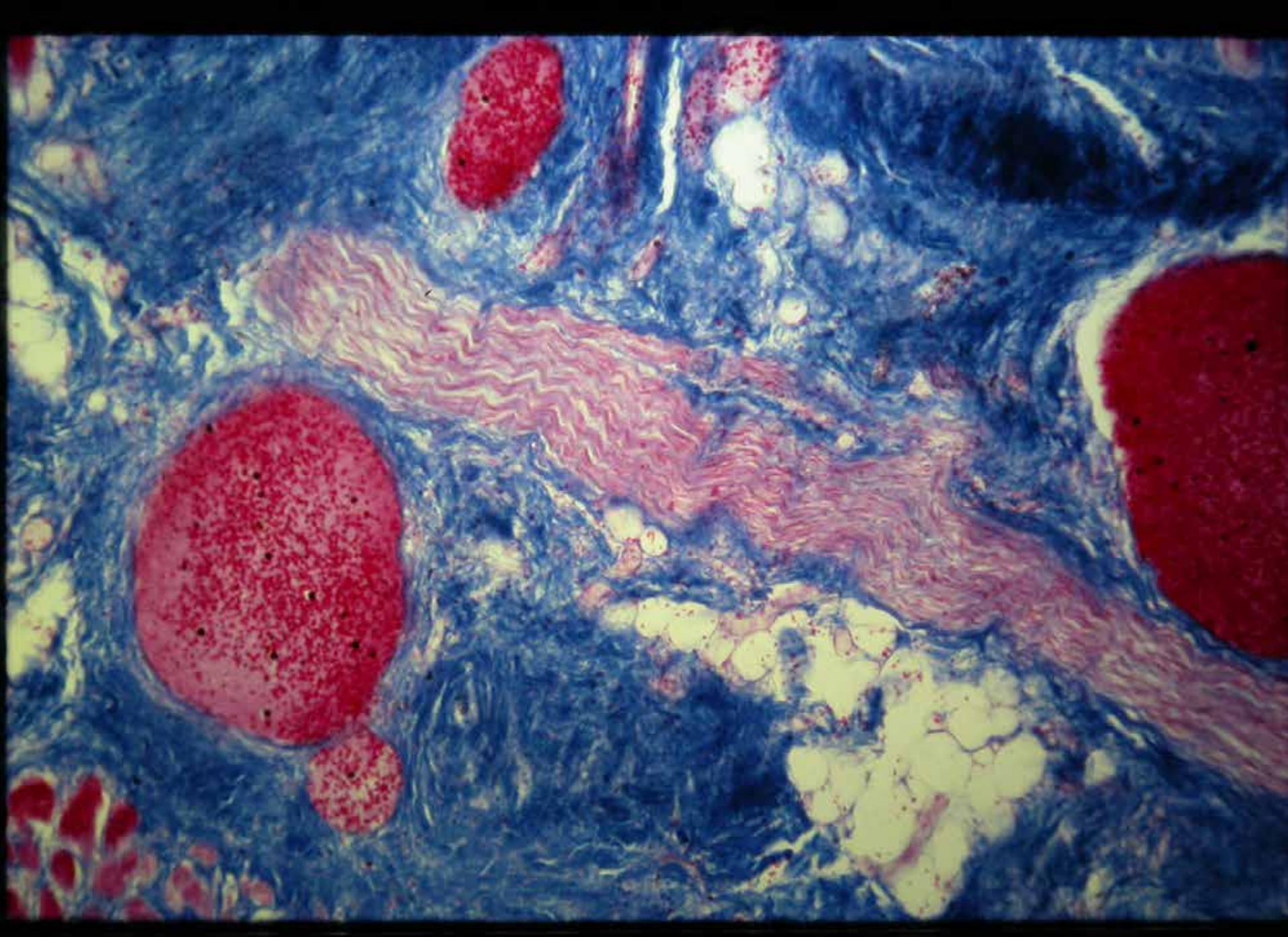
UN COLPO  
COME IN UN  
MASSAGGIO  
CARDIACO

François M. Abboud, The New England Journal of Medicine 1989;320:390  
Journal of Medicine 1993;328:117

## NEUROCARDIOGENIC SYNCOPE - VENTRICULAR SYNCOPE -



forceful, and rapid systolic contraction. The powerful ventricular contraction may squeeze and activate these cardiac nerve endings and trigger a reflex analogous to that seen during carotid-sinus massage. The triggered activity is also relayed to the medulla:...

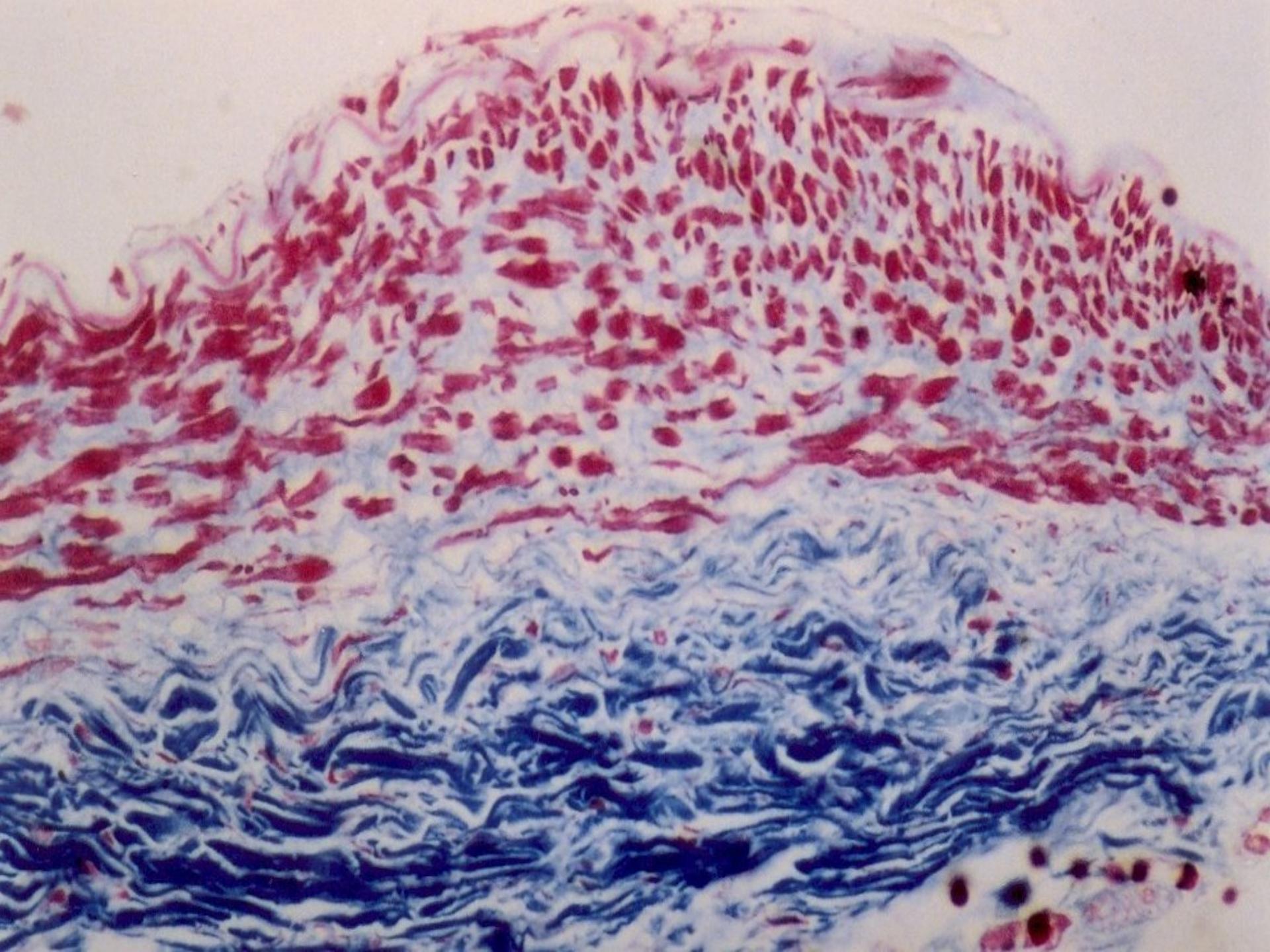


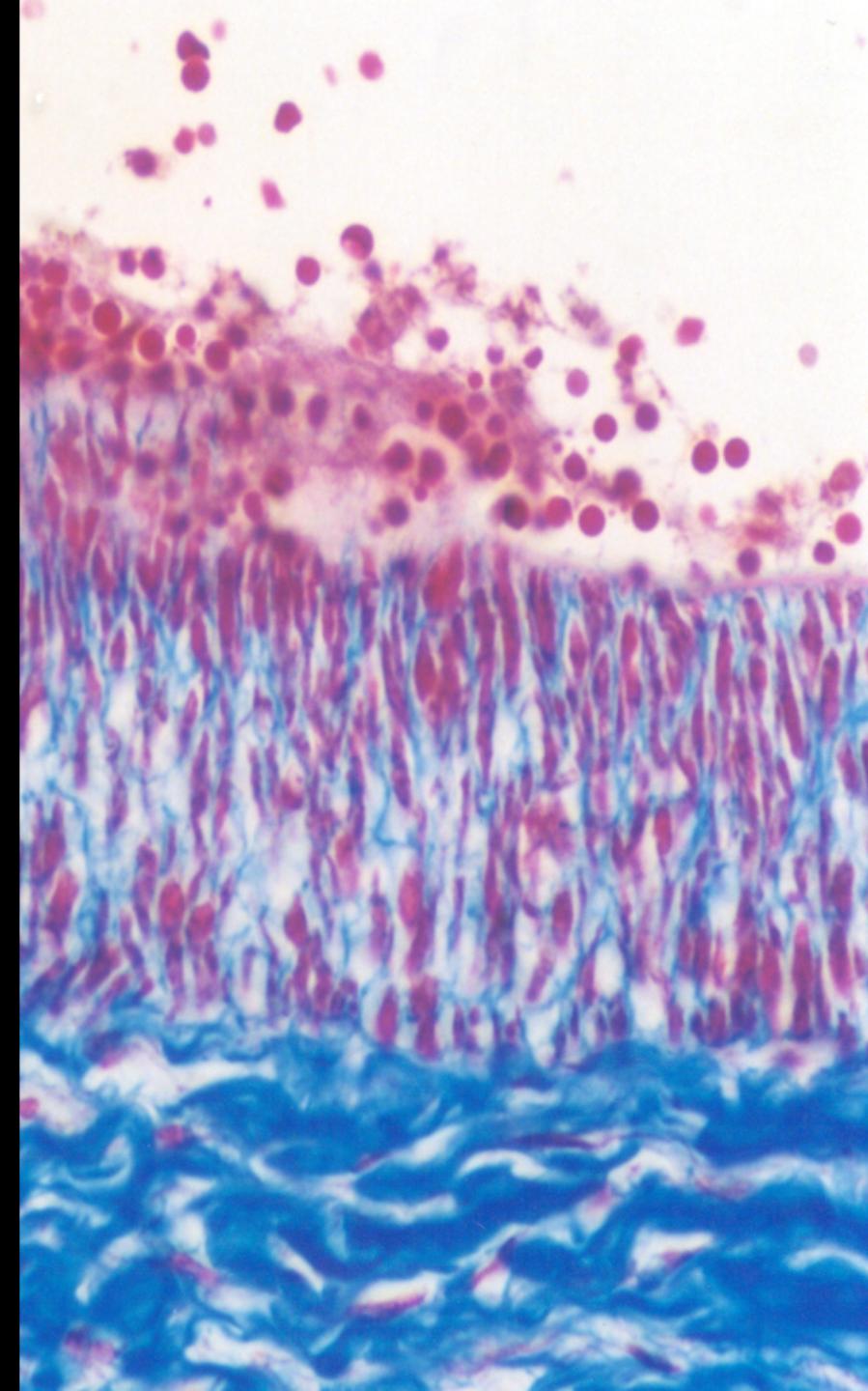
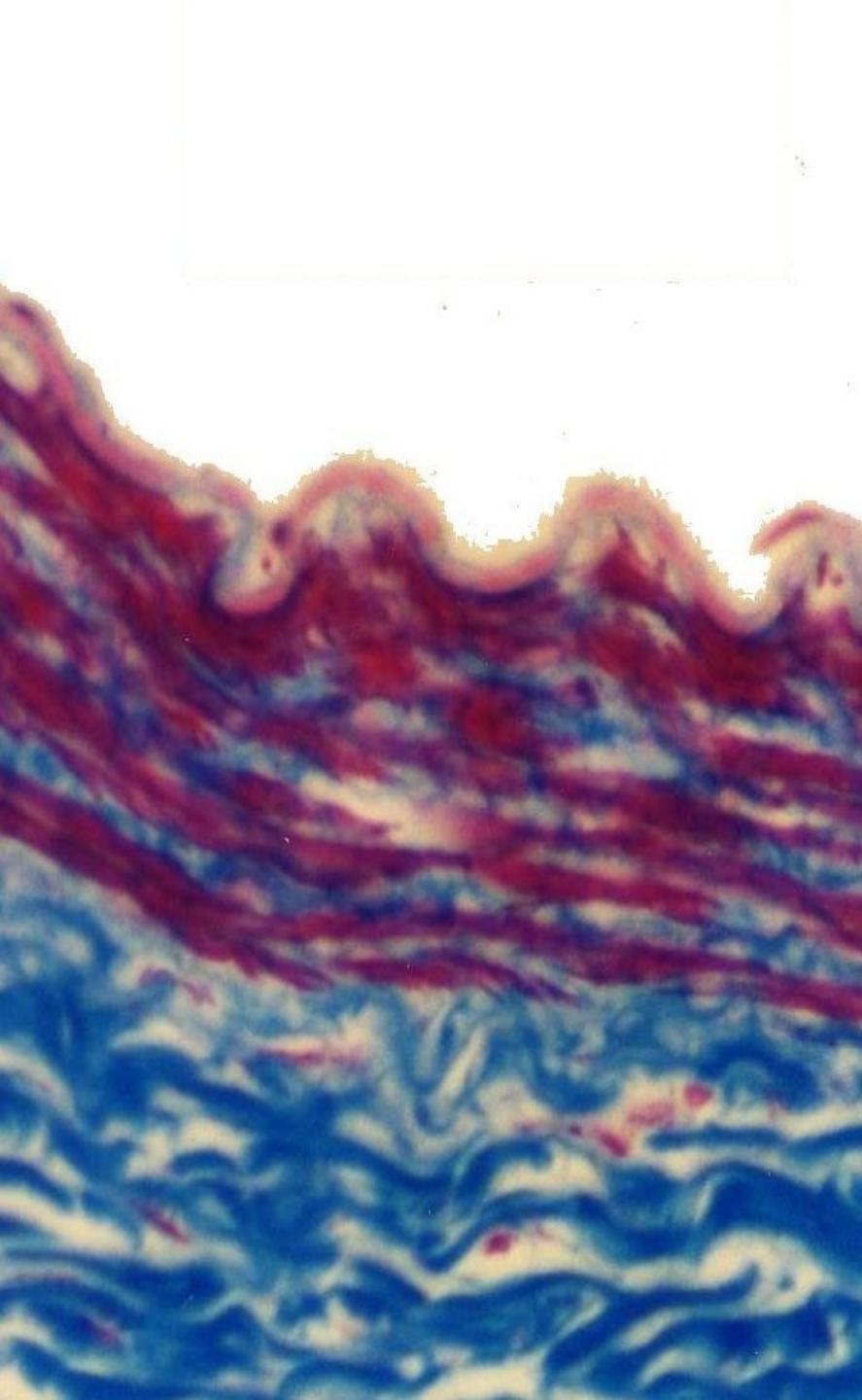


# Intimal preatherosclerotic thickening of the coronary arteries in human fetuses of smoker mothers

L. Matturri, A.M. Lavezzi, G. Ottaviani, L. Rossi

*J Thromb Haemost 2003;1:2234-2238*





Free  
Color!



# Virchows Archiv

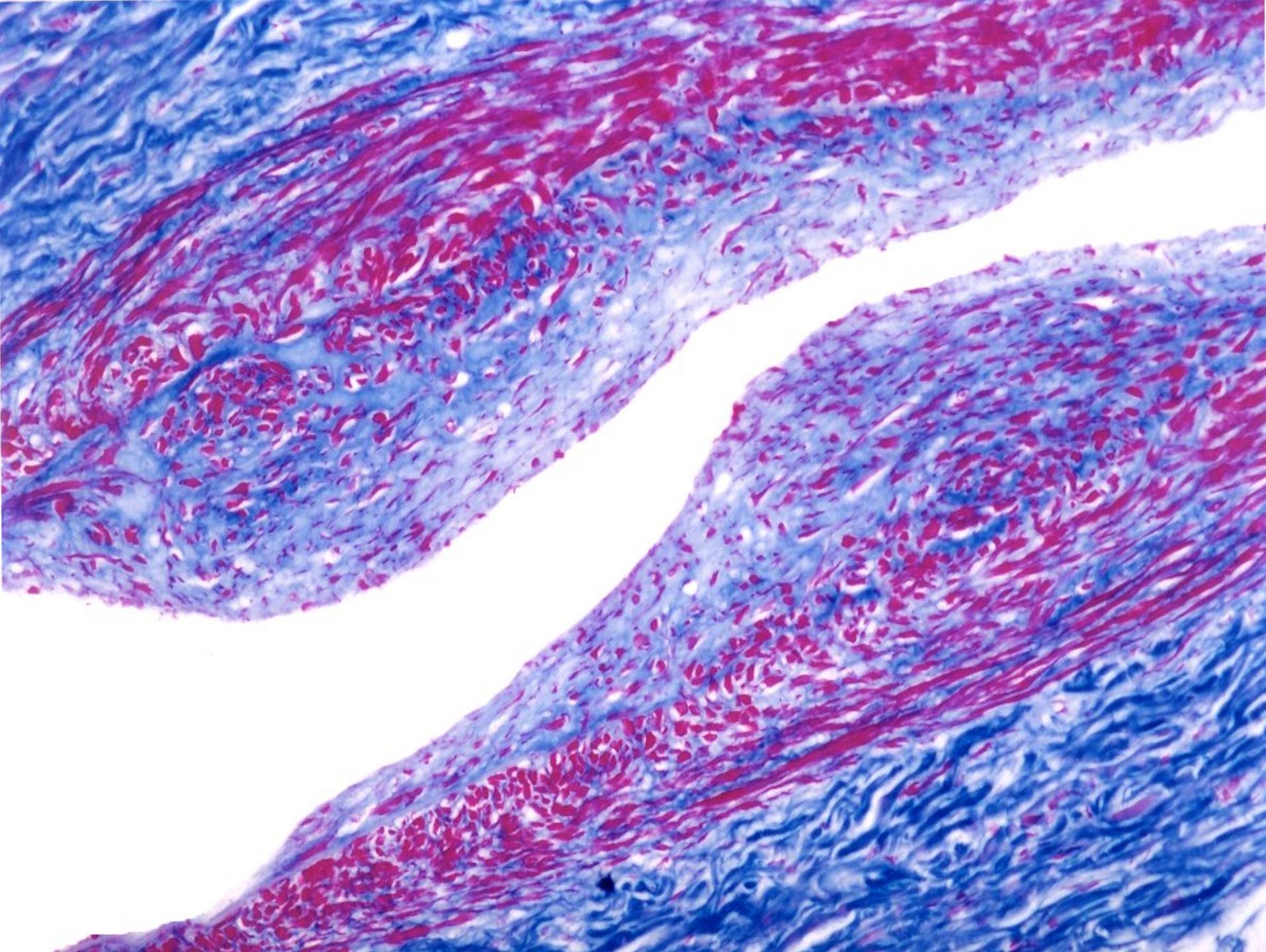
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OF  
PATHOLOGY

Springer

## Early atherosclerotic lesions in infancy: role of parental cigarette smoking

L. Matturri, G. Ottaviani, AM. Lavezzi, L. Rossi

*Virchows Arch 2005; 447: 74-80*



# CARDIOVASCULAR PATHOLOGY

A Journal of Basic, Clinical and Applied Cardiovascular Science

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  - Conduction System Atherosclerosis in Infants
    - A Lion-Hearted Organ (Part I)

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# Early atherosclerotic lesions of the cardiac conduction system arteries in infants

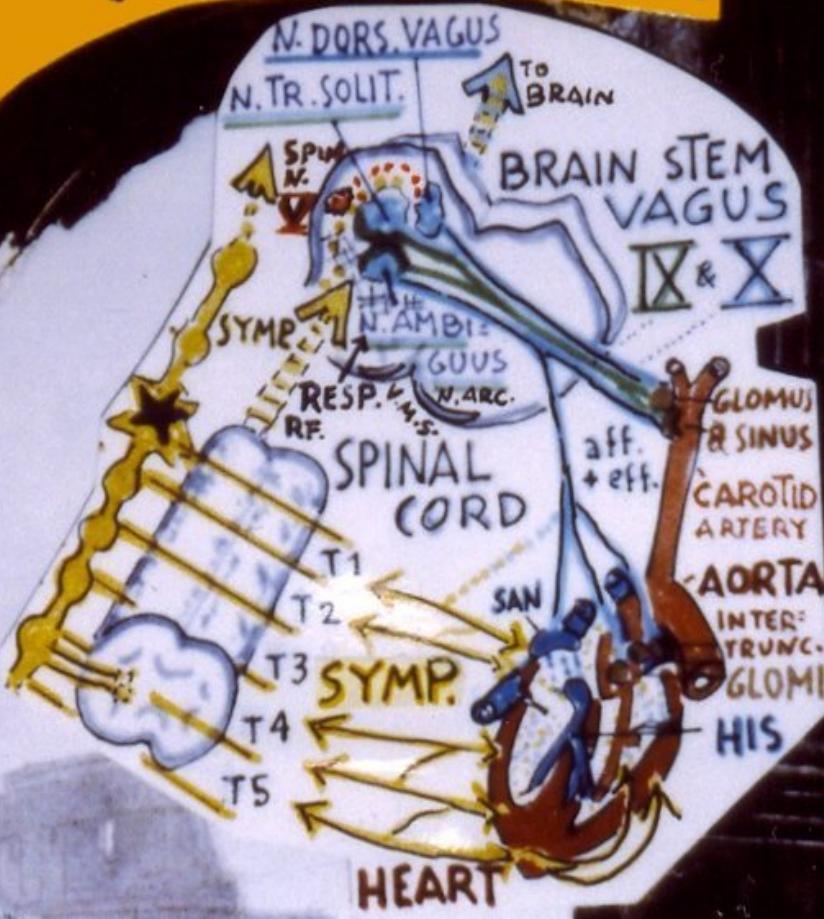
L. Matturri, G. Ottaviani, AM. Lavezzi, L. Rossi

***Cardiovasc Pathol 2004; 13: 276-281***

AVN

CF

# REFLEX ARC



ALTERED  
REFLEXES  
INVOLVED IN  
SCD

DIVE -  
O<sub>2</sub>-CONSERVING

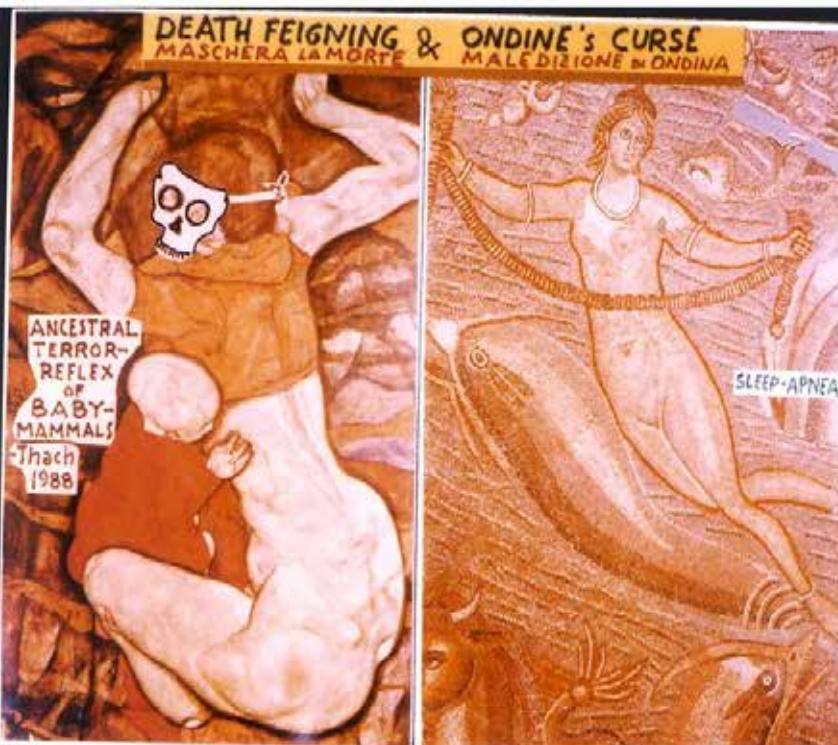
ONDINE'S  
CURSE

FEAR-PARALYSIS  
DEATH-FEIGNING

CARDIO-AUDITORY  
-LQT SYNDR.?-

OCULO-CARDIAC

ALL DOMINATED  
BY VAGUS'  
INHIBITORY  
RESPONSE



SPAN THE SAME REFLEXOGENIC ARC  
AS THE PREPOTENT CARDIORESP.-INHIBITORY  
DIVE REFLEx

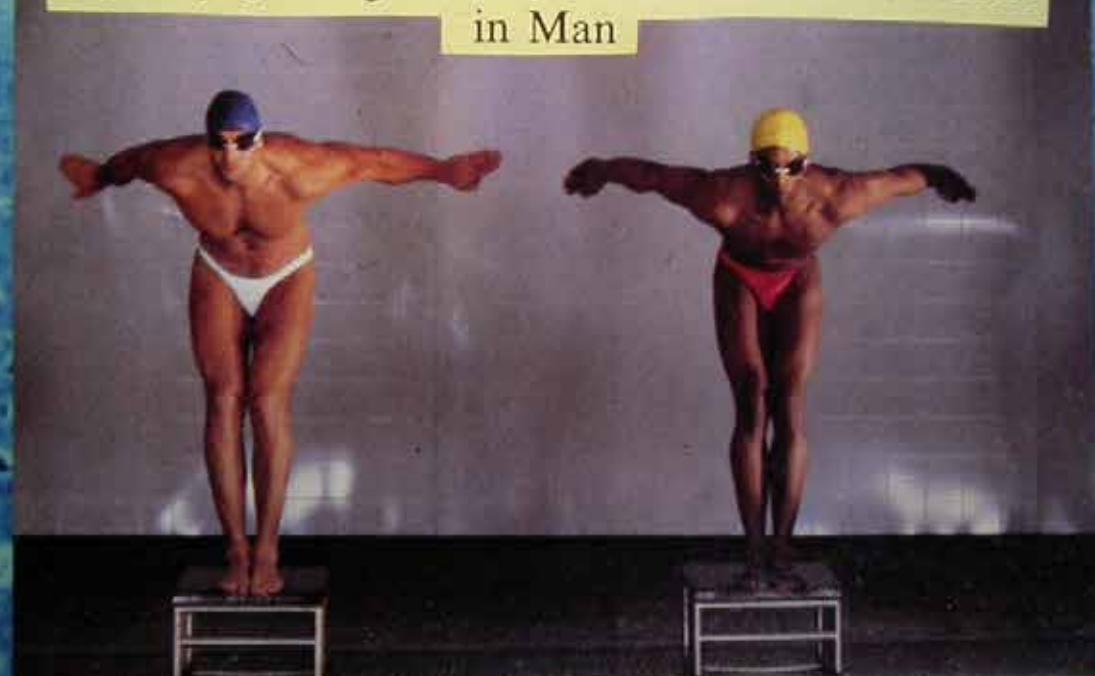
N.DOR. X



N.T.R So.  
IX+X

### Psychophysiological Influences on the Dive Reflex in Man

N.XII



the oxygen-conserving reflex

# SPONGIFORM ENCEPHALOPATHY



DORS. VAGUS N.

SPONGIOSI



QTc 549 MSFC

**Brain Stem Involvement and Long QT  
Interval in Transmissible Spongiform  
Encephalopathy**

QTc 575 MSFC

N. AMBIG.



KURU PLAQUES

# REFLEX SCD - SETTING THE MIRROR



CARTAGO MOSAIC