

TRANSPORTE,
PROCESSAMENTO
E ROTINA DA
BIOPSIA

TRANSPORTE PODE SER FEITO DE 3 MANEIRAS

1ª

- **1- CAIXA DE ISOPOR**
- **2- GAZE**
- **3- GELO**
- **SORO FISIOLÓGICO**

2ª

- 1- GARRAFA TERMICA DE TRANSPORTE DE NITROGENIO
- 2- CÊRA DE DENTISTA, LUVAS
- 3- PINÇAS E LAMINAS AFIADAS
- 4- TALCO E CORTIÇAS
- 5- PAPEL LAMINADO E ETIQUETAS DE IDENTIFICAÇÃO.

3ª

- **1- CAIXA DE ISOPOR**
- **2- GELO SÊCO**
- **3- SORO FISIOLOGICO**

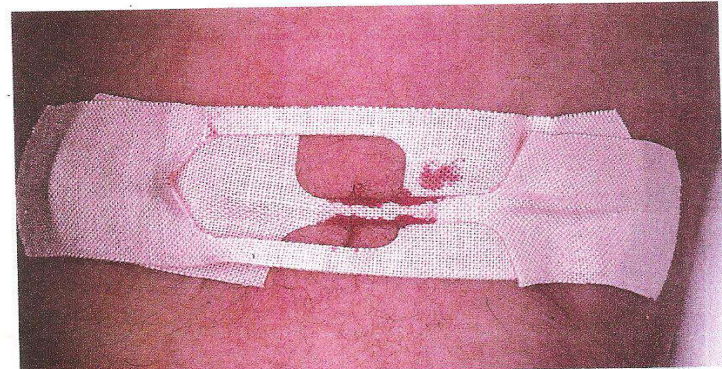
COLHEITA: biópsia muscular



a



c

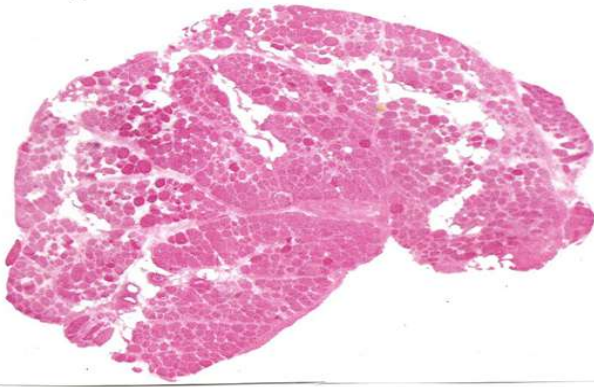


d

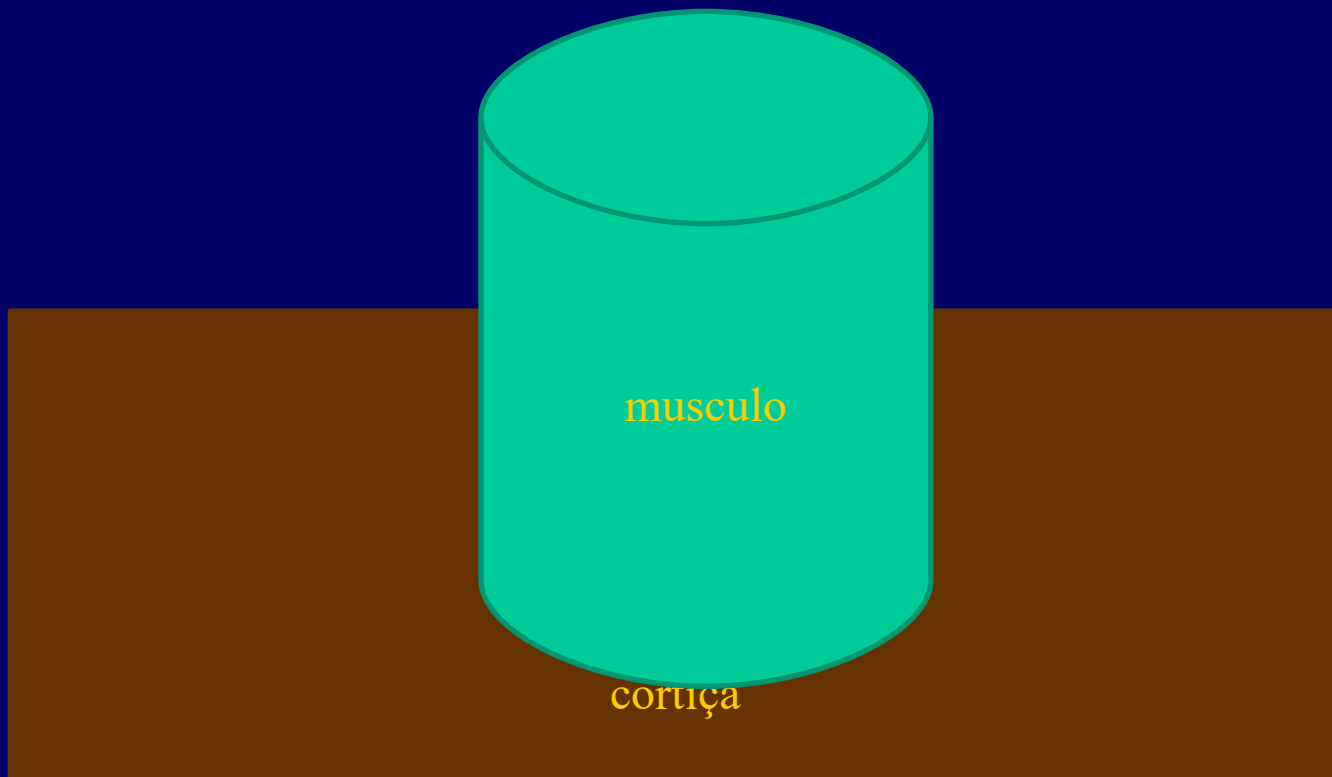
Posicionamento e inclusão da biópsia muscular



a



Posição de inclusão da biopsia muscular

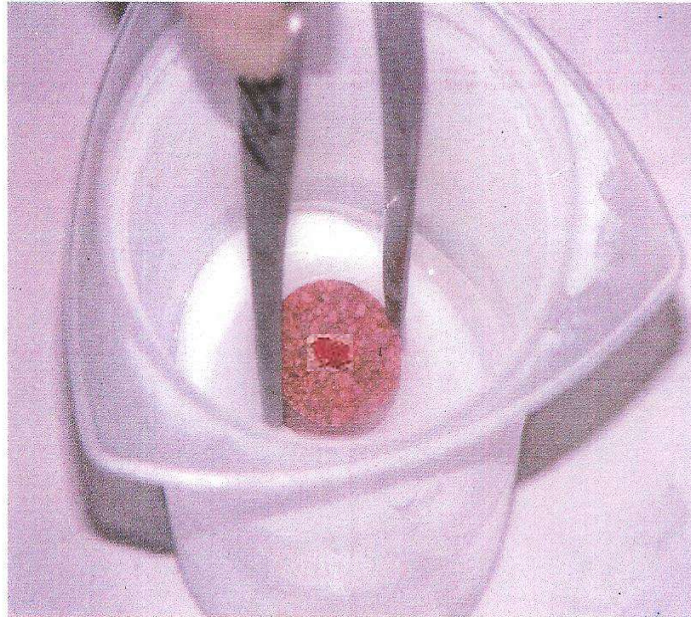


CONGELAMENTO

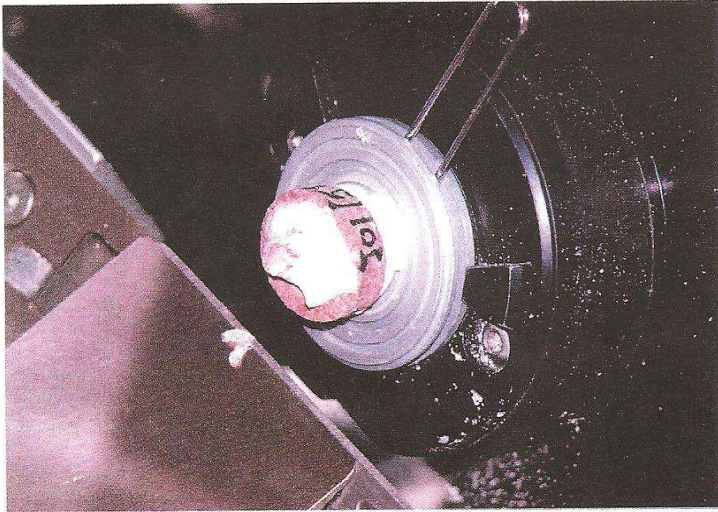
Em nitrogênio

Nitrogênio
Líquido

CORTIÇA



Corte do musculo e feito no Criotato



a



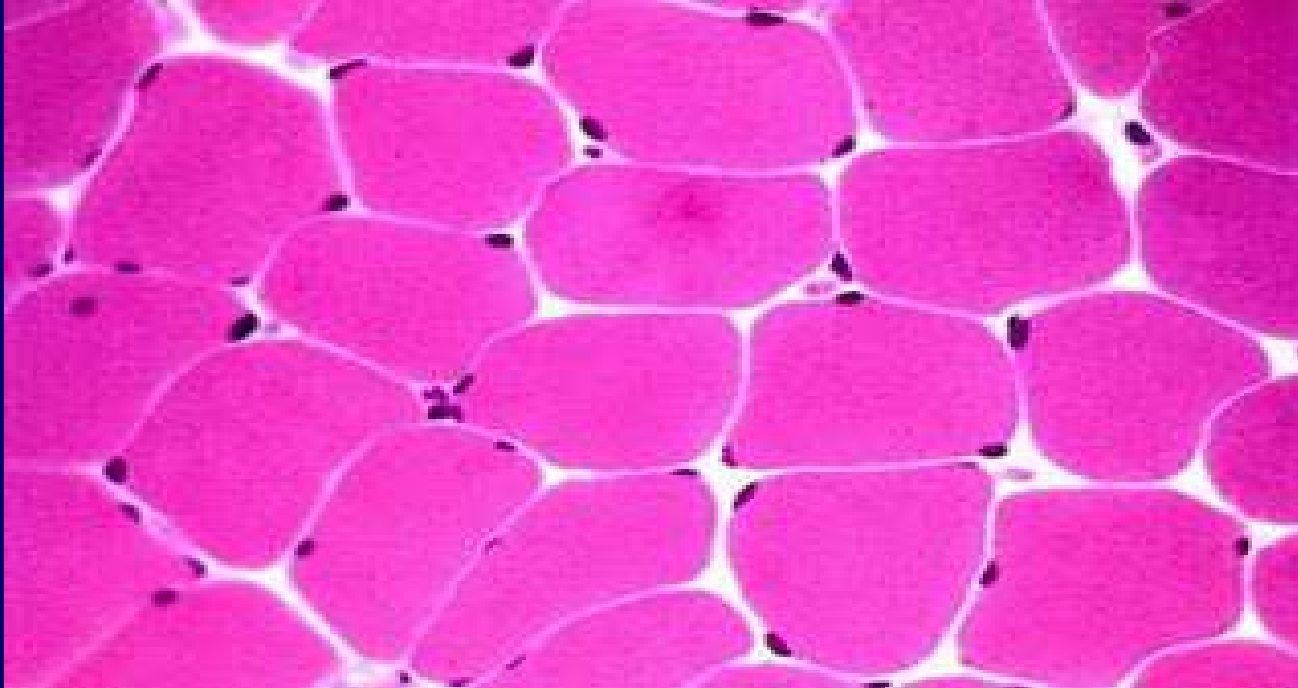
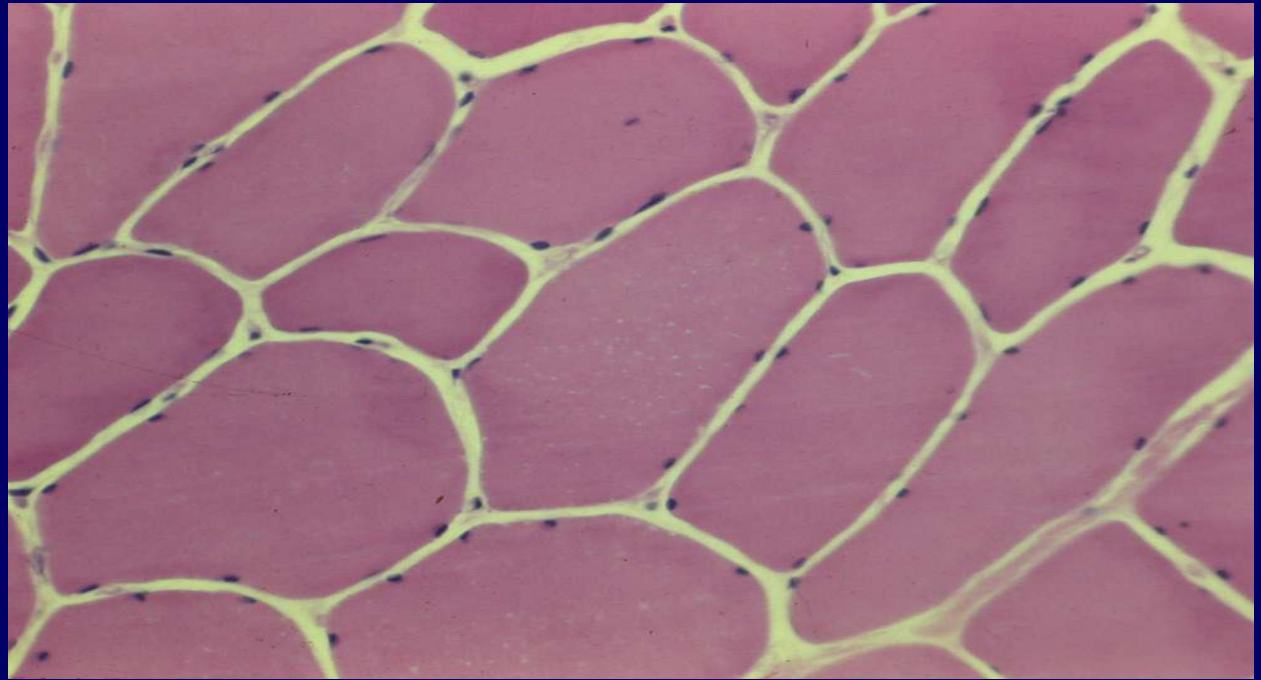
b



TÉCNICAS UTILIZADAS DE ROTINA

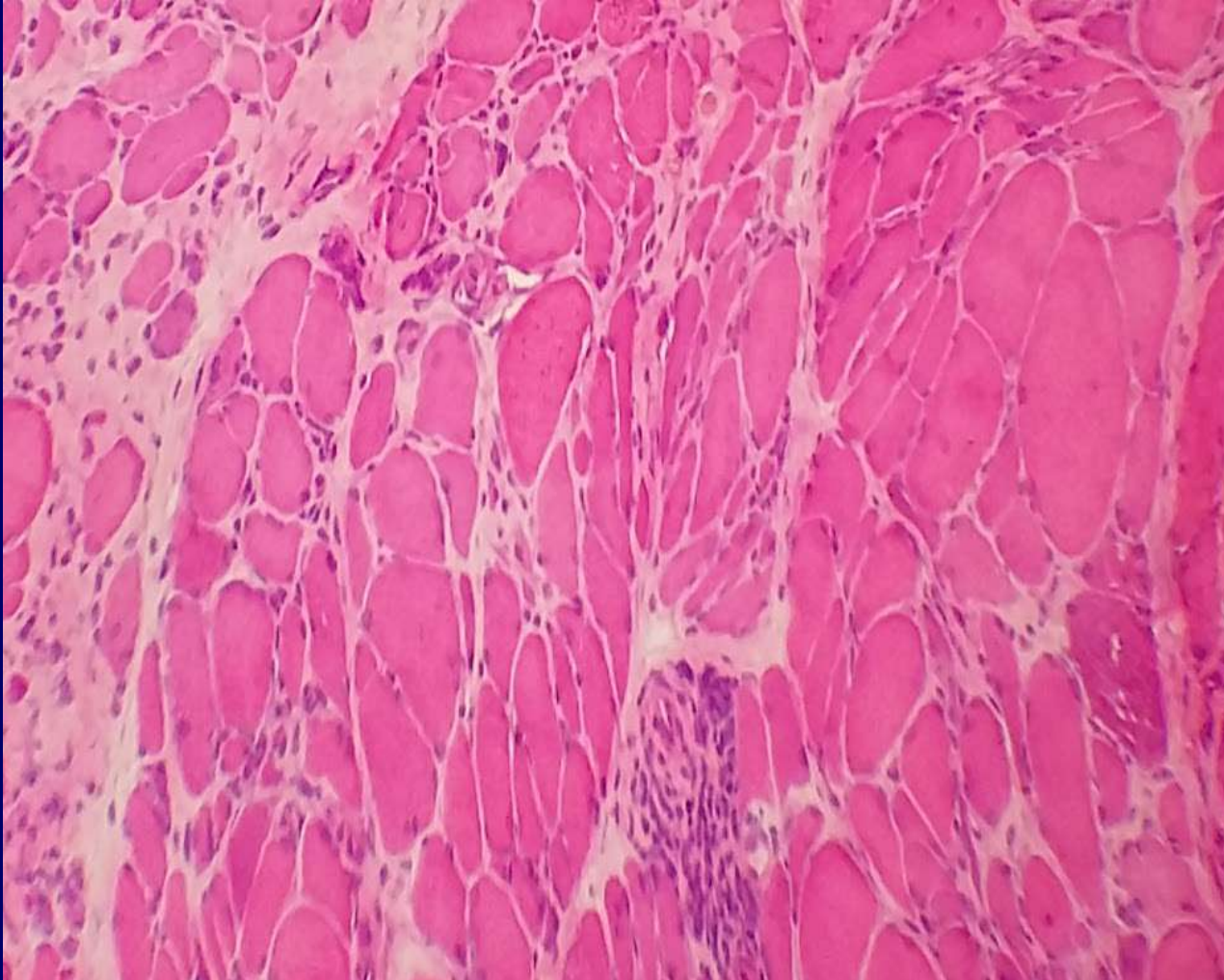
- H&E
- Oil Red O
- PAS
- Tricrômico de Gomori modificado
- Succino-dehidrogenase (SDH) OU NADH
- ATPase (9.4, 4.6, 4.3)
- H&E

Hematoxilina e Eosina

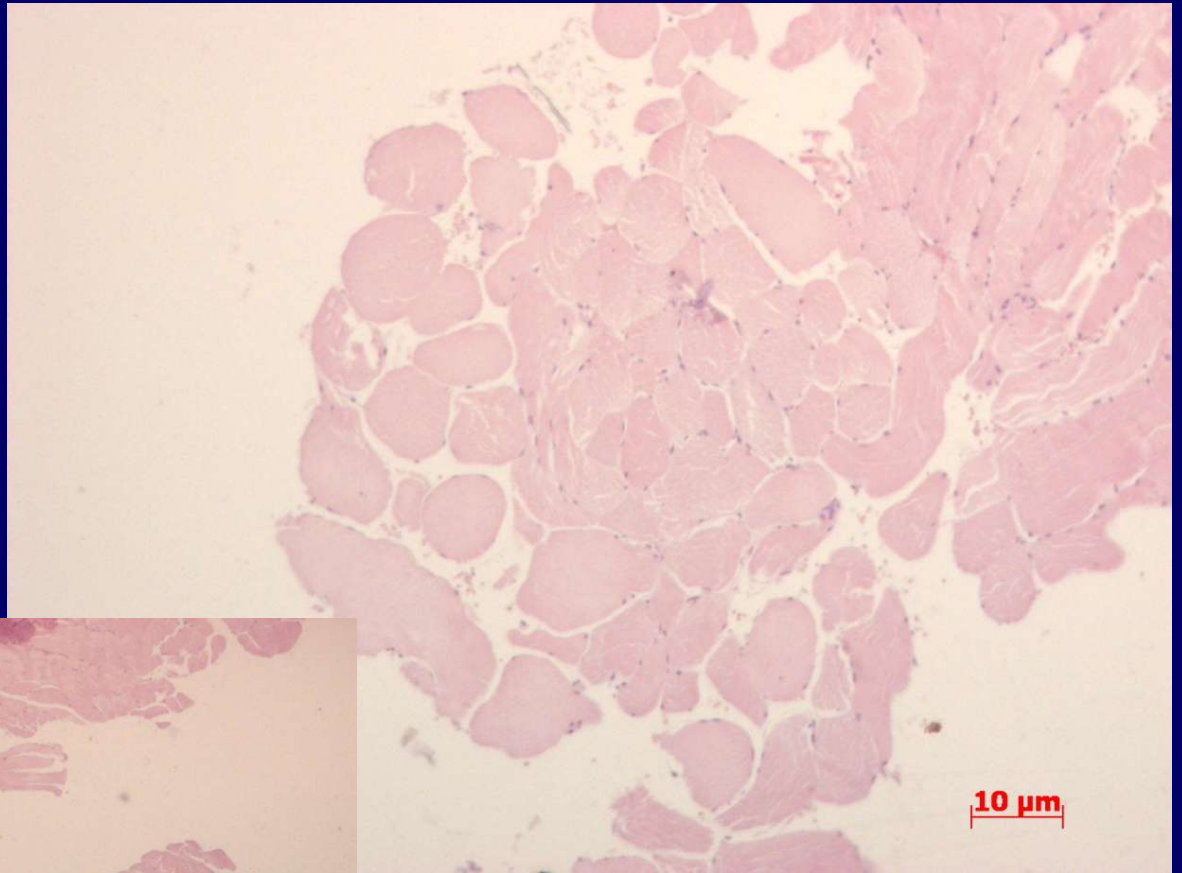


CONGELAÇÃO
Nitrogênio

HE

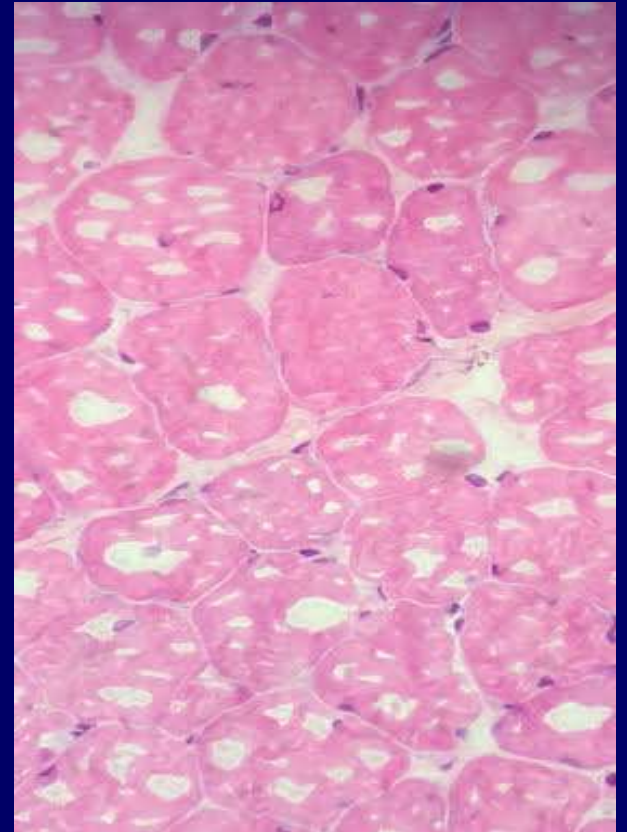
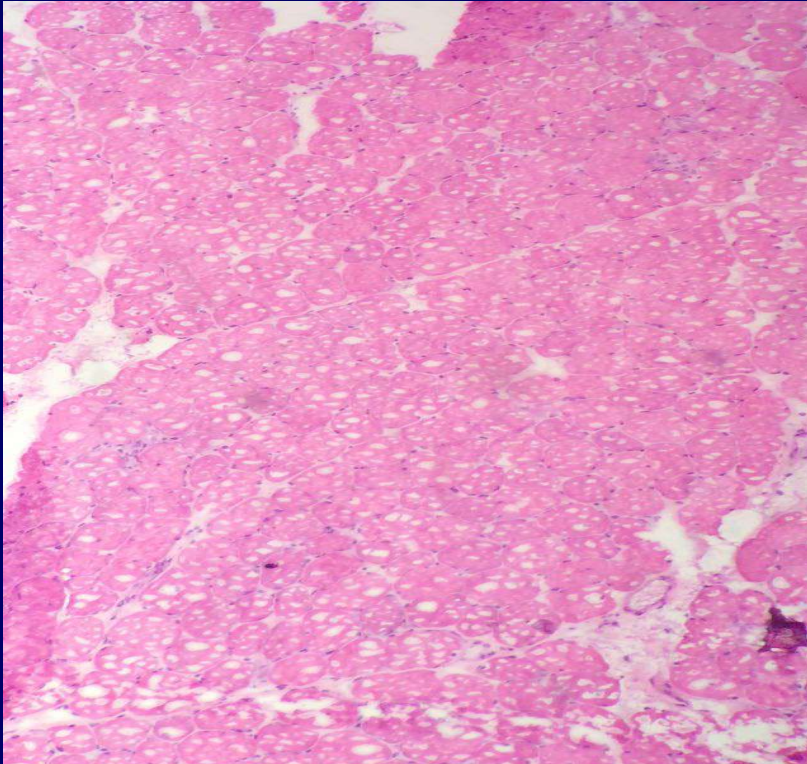


Hematoxilina e Eosina

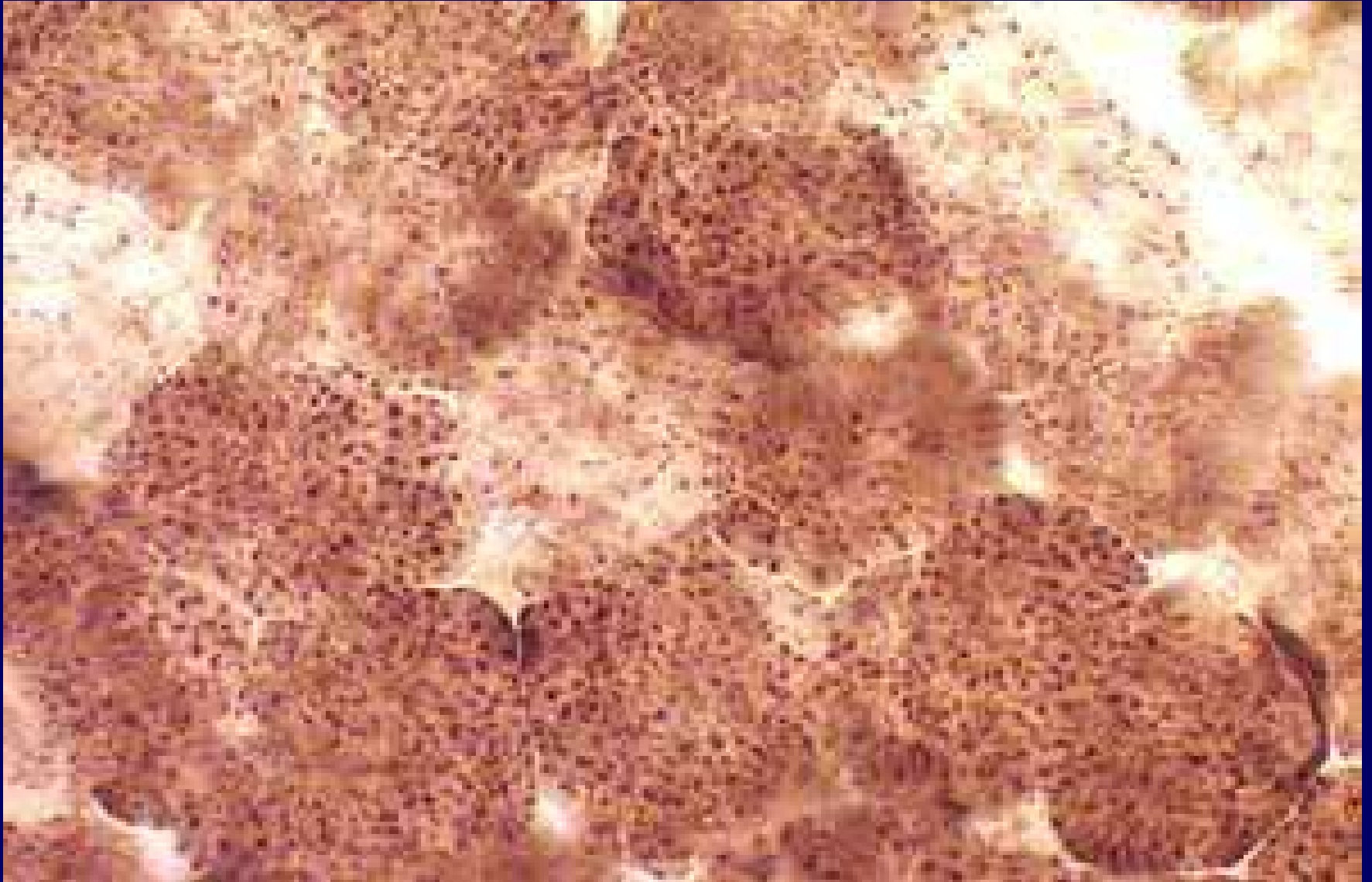


**MATERIAL
PARAFINADO**

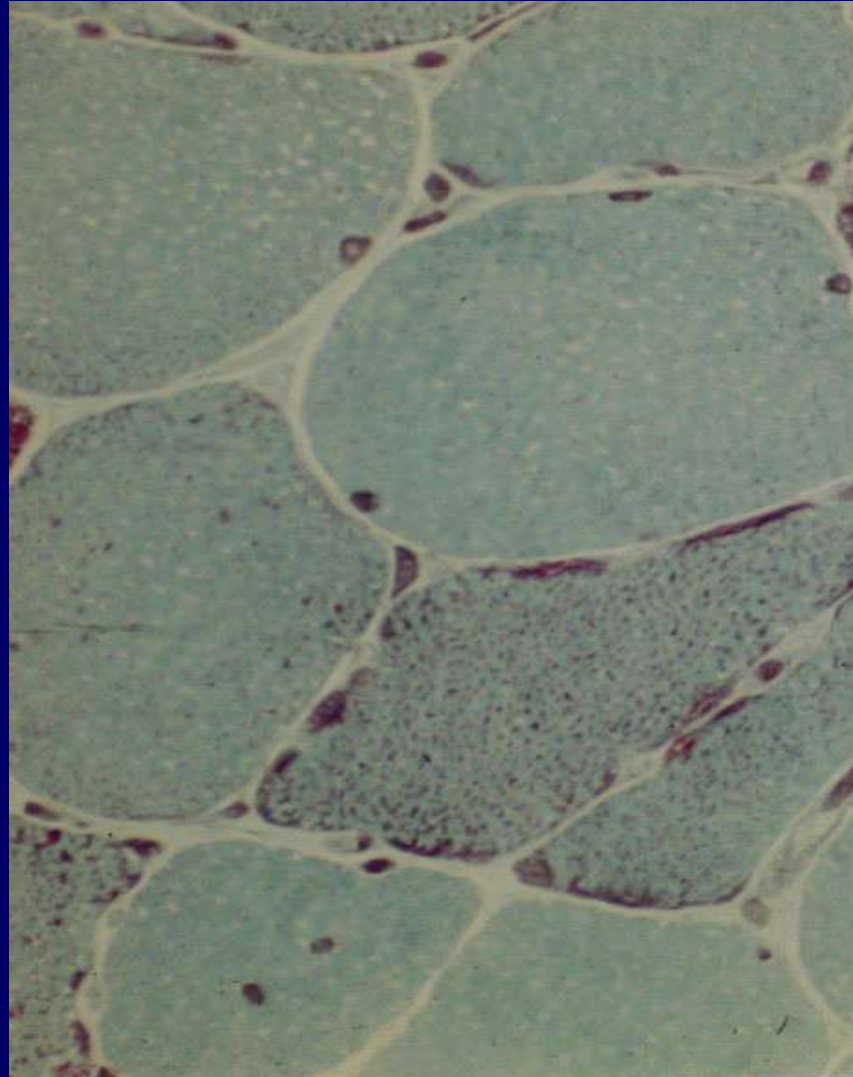
ARTEFATOS DE CONGELAÇÃO



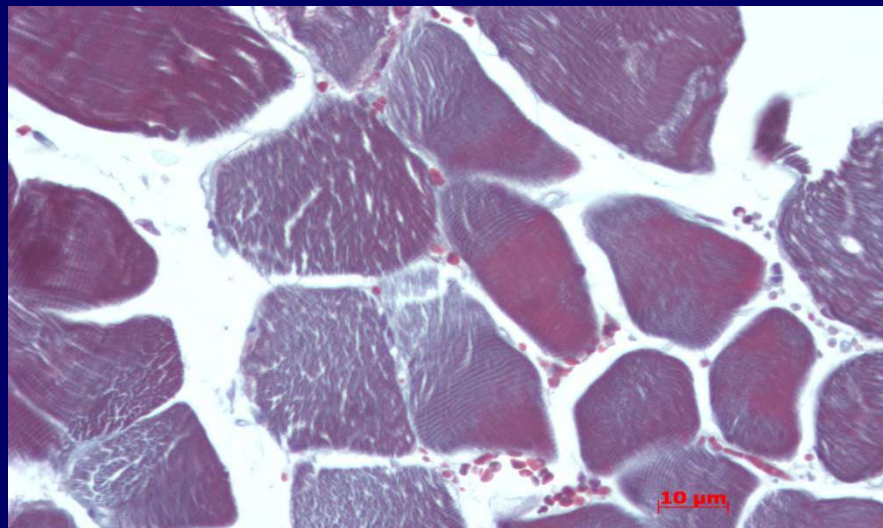
Oil Red O



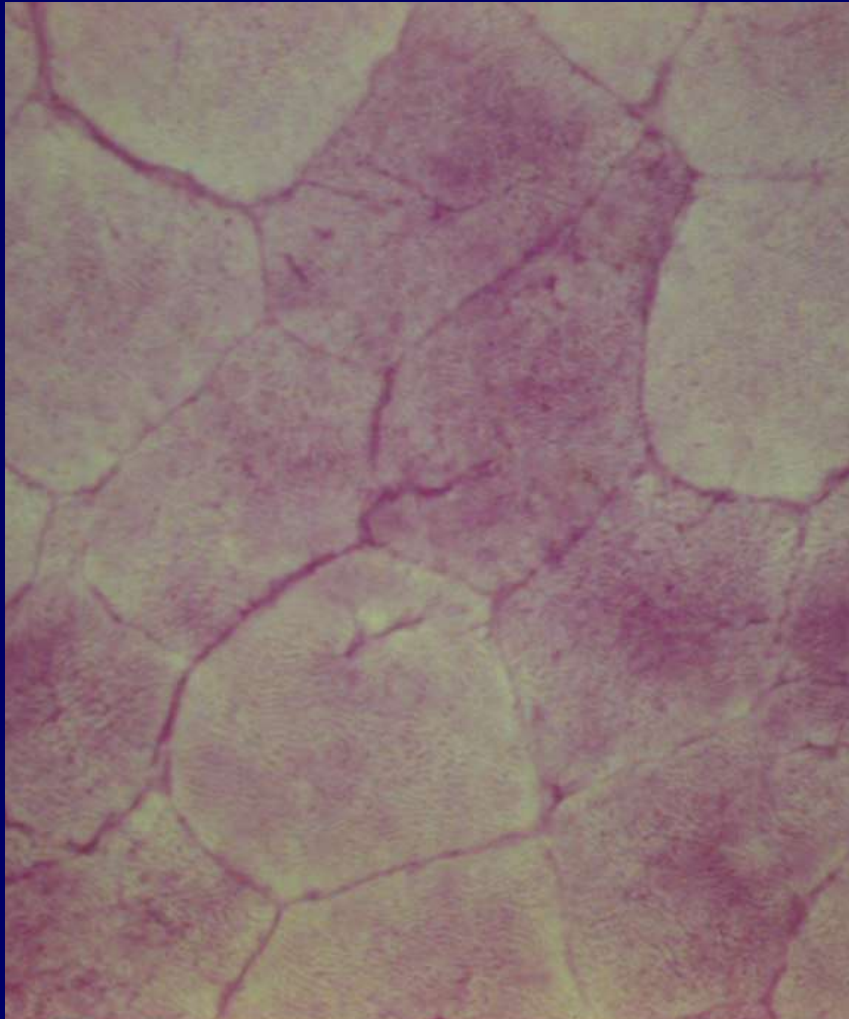
Tricrômico de Gomori (modificado)



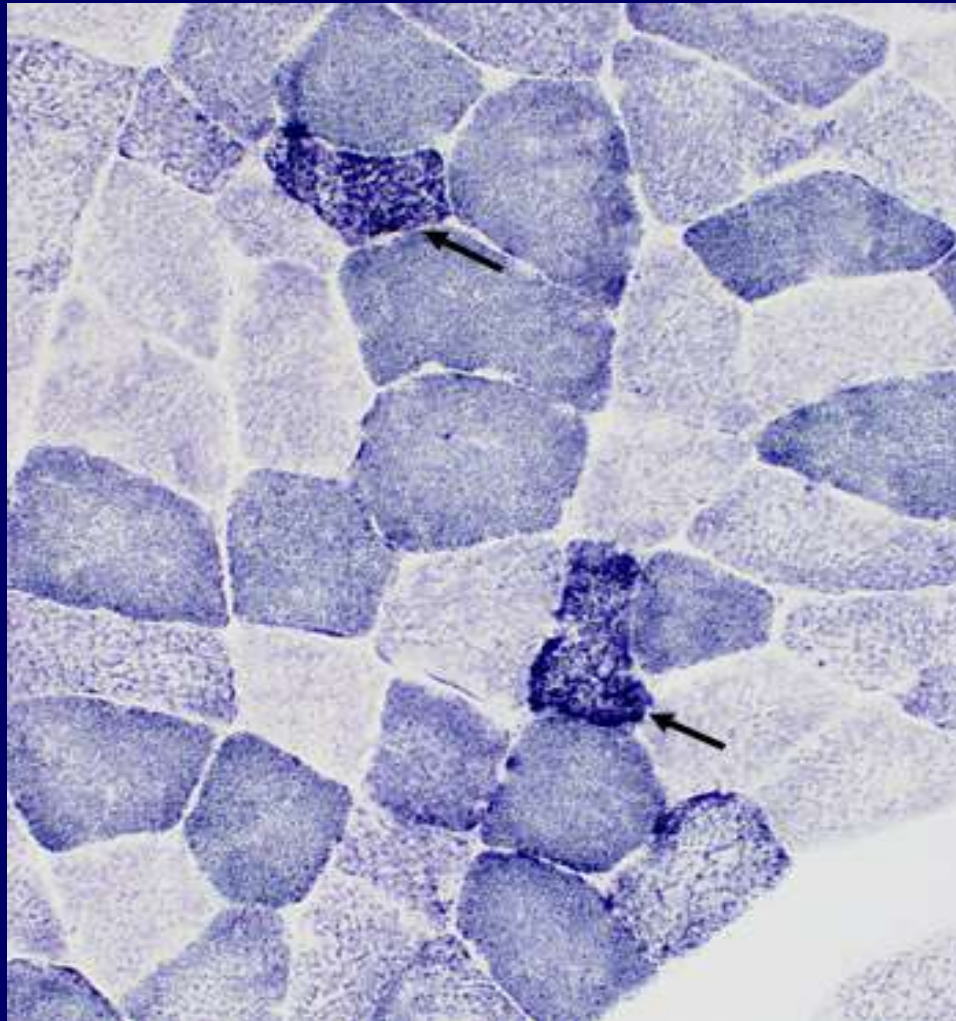
Tricrômico de Gomori (parafina)



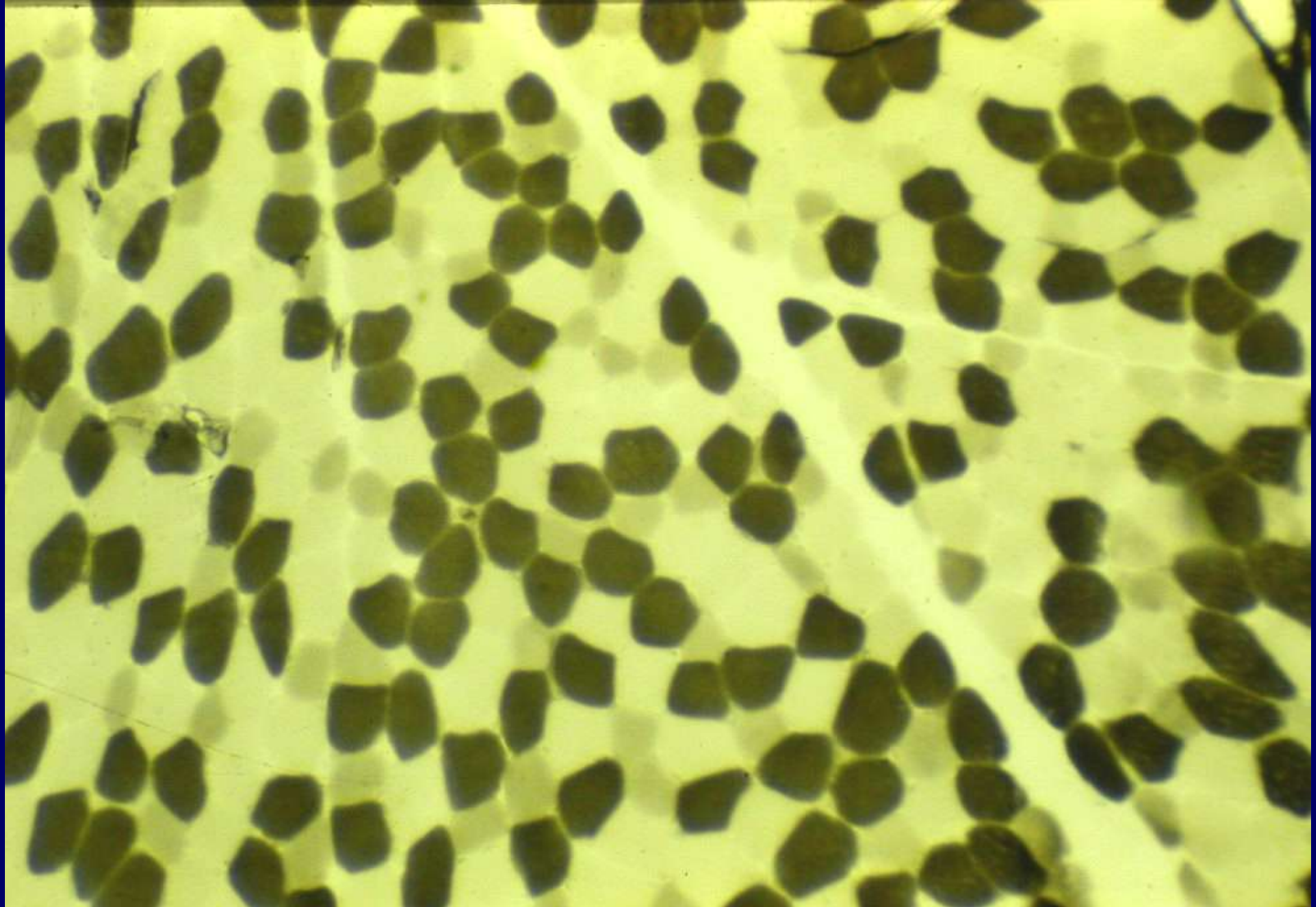
Ac. Periódico – Schiff PAS



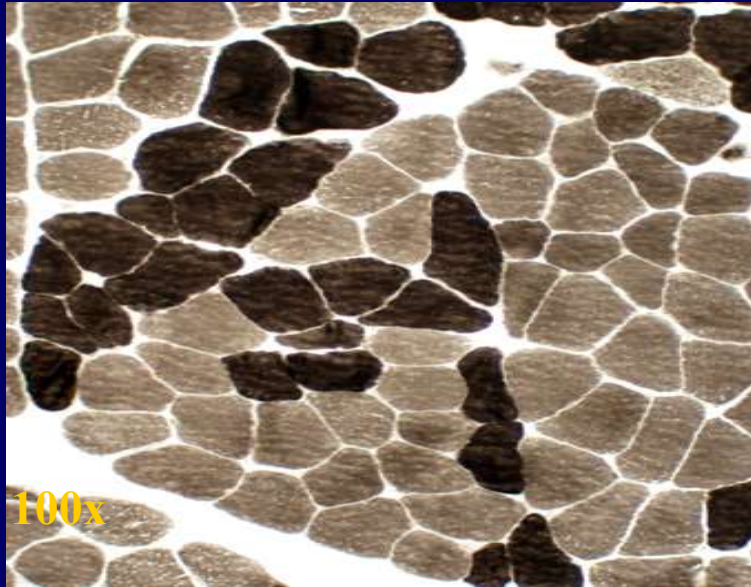
Desidrogenase Succínica (SDH)



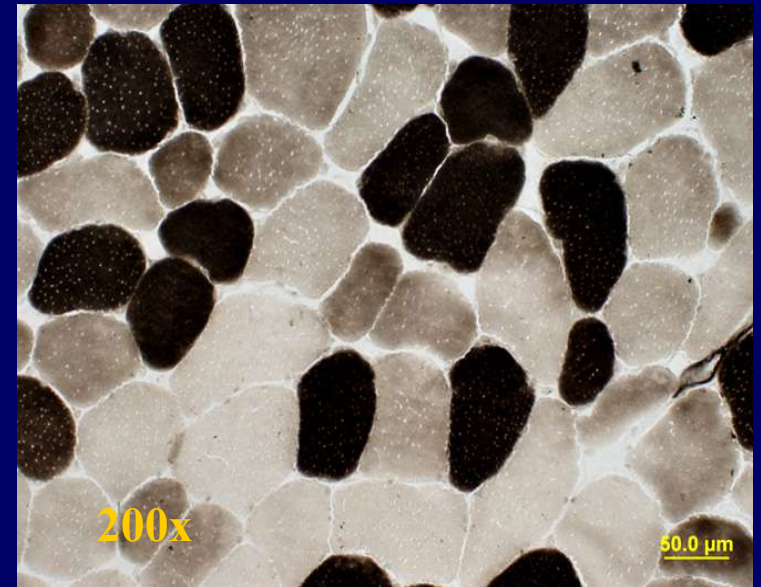
ATPASE 9,4 – Visão panorâmica



ATPase Ph 9.4



ATPase – pH4.6

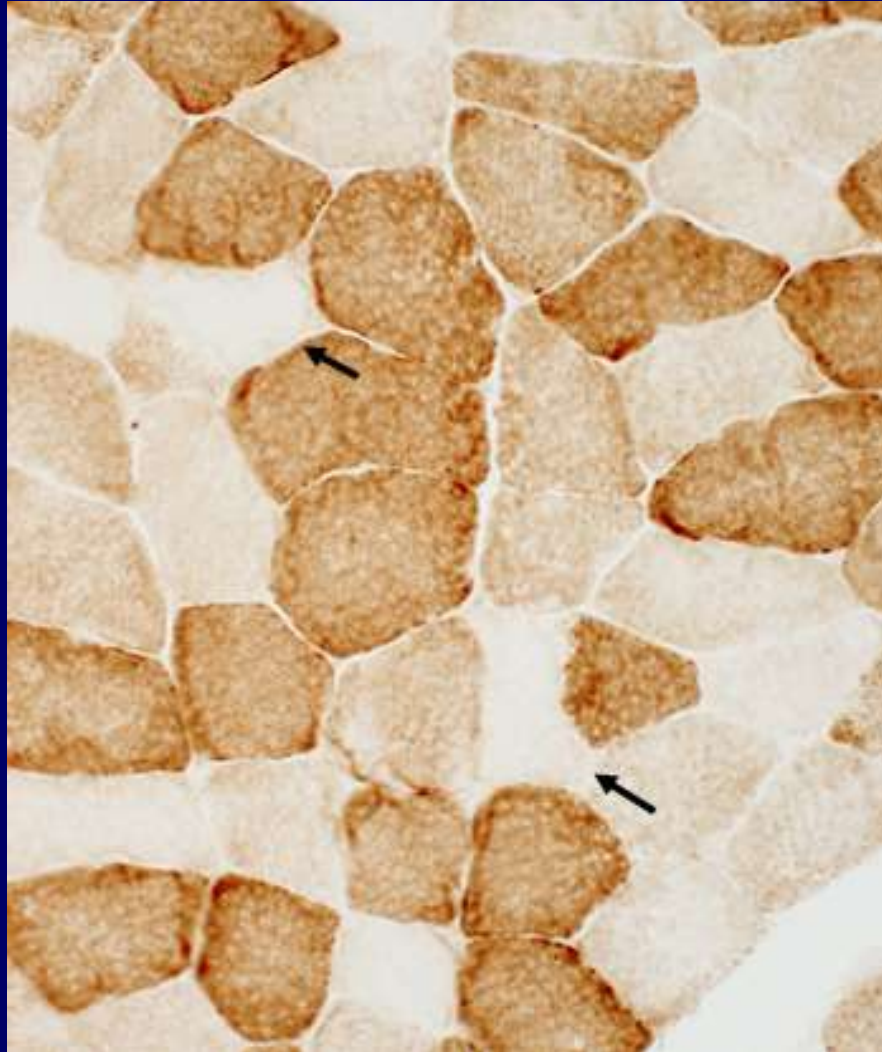


ATPase – pH4.3

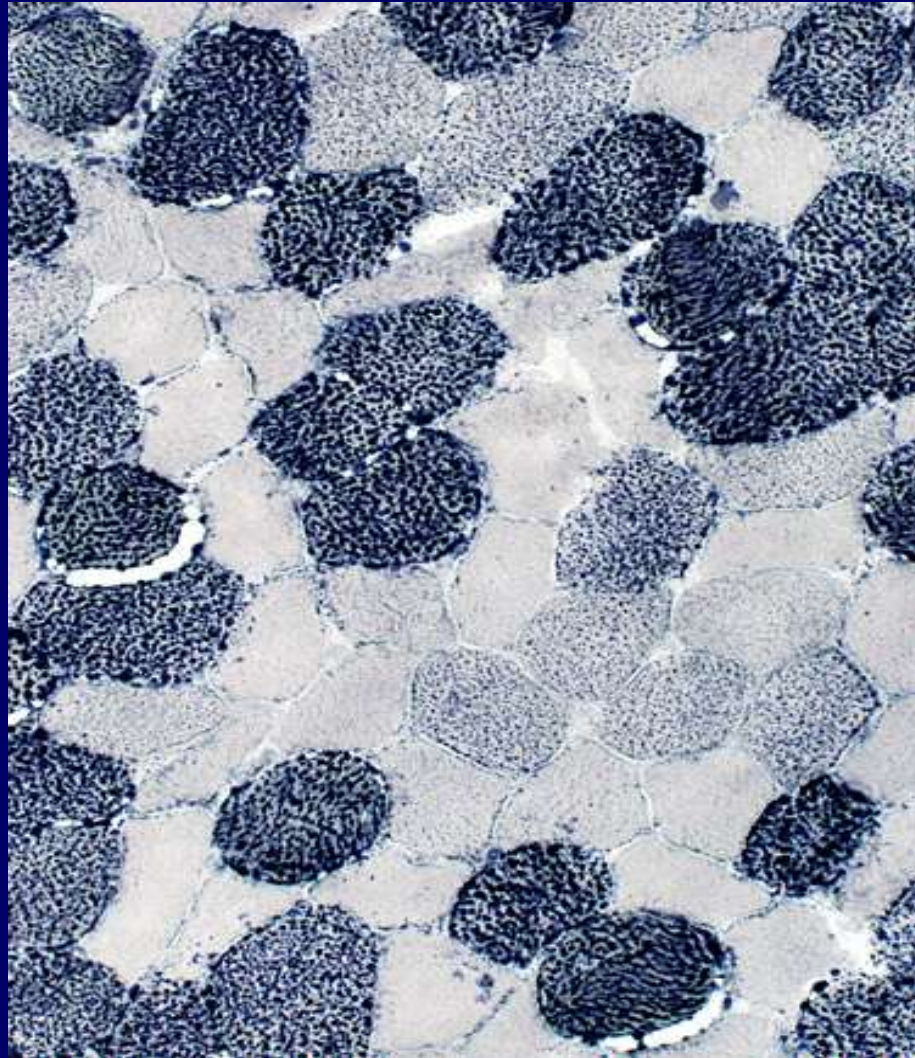
TÉCNICAS OCASIONAIS

- **Van Gieson**
- **Hematoxilina fosfotungstica (PTAH)**
- **Citocromo oxidase**
- **Miofosforilase**
- **Fosfofrutoquinase**
- **Nicotinamida adenina dinucleotideo (NADH)**
- **Miodenilato deaminase**
- **Fosfatase ácida e alcalina, ETC.**

CITOCROMO OXIDASE



NADH



IMUNOHISTOQUIMICA DA BIOPSIA MUSCULAR

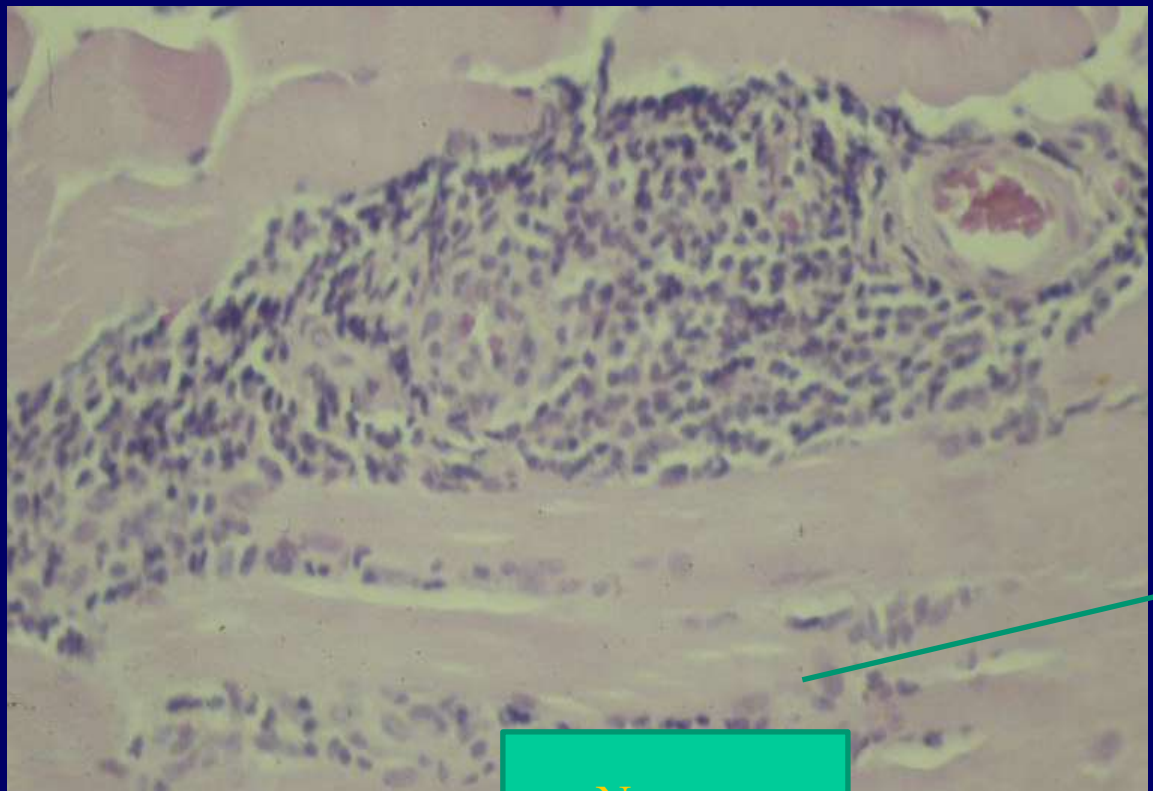
- 1- NÃO E NECESSARIO FAZER RECUPERAÇÃO ANTIGENICA
- 2- NÃO E NECESSARIO A ELIMINAÇÃO DAS CARGAS ELÉTRICAS E COLORAÇÃO DE FUNDO
- 3 A TECNICA PODE SER FEITA EM POUCAS HORAS

Processos Etiológicos na patologia muscular

- Inflamatórias
- Metabólicas
- Congênitas
- Distrofias musculares
- Miopatias tóxicas
- Neurogênicas

VASCULITE

Invasão por
células
inflamatórias



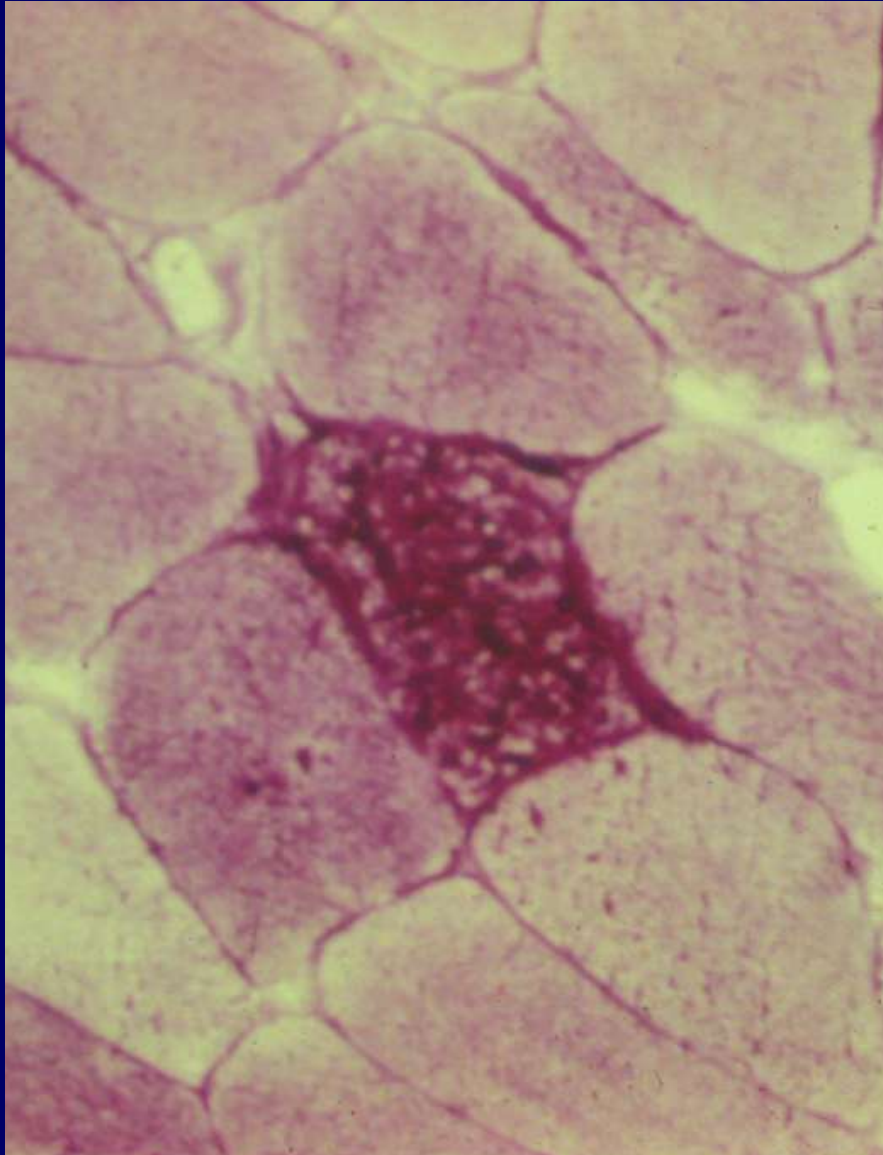
Necrose



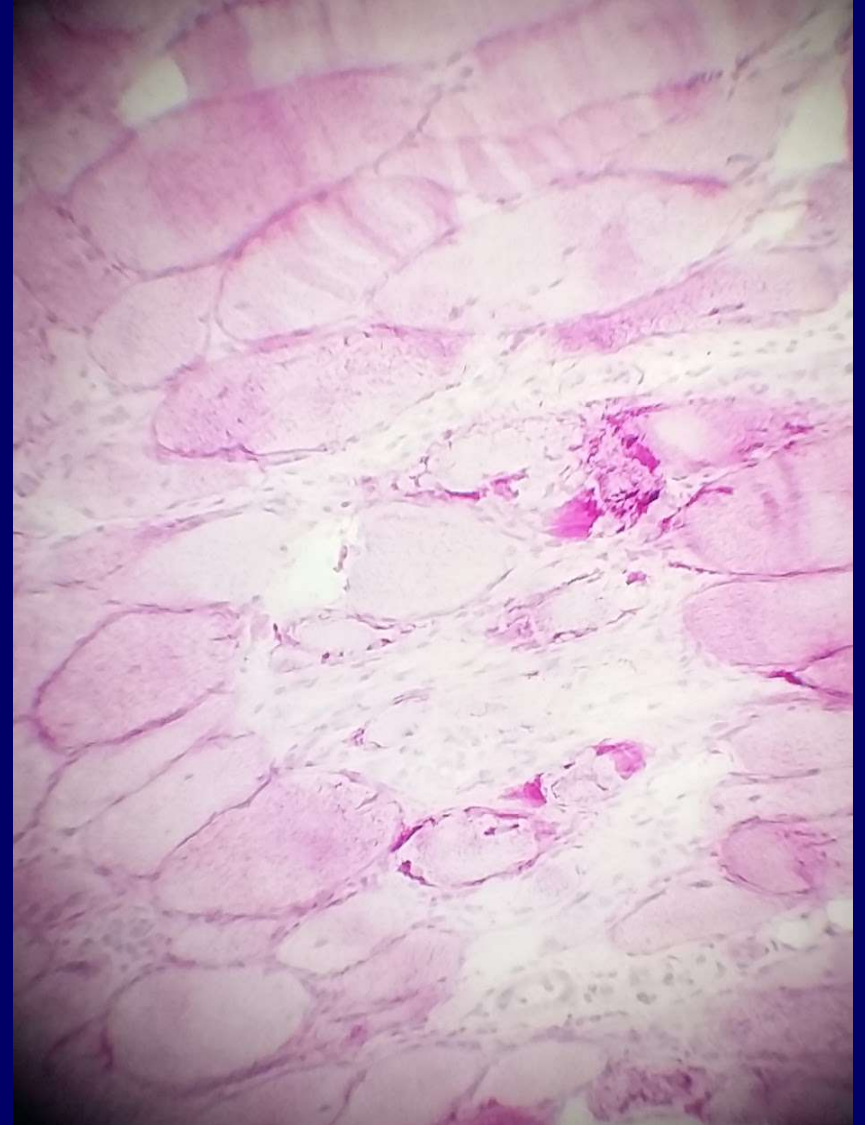
Processos Etiológicos

- Inflamatórias
- Metabólicas
 - Glicogenoses
 - Lipidoses
 - Mitocondriopatias
 - Endócrinas
 - Outras
- Congênitas
- Distrofias musculares
- Miopatias tóxicas
- Neurogênicas

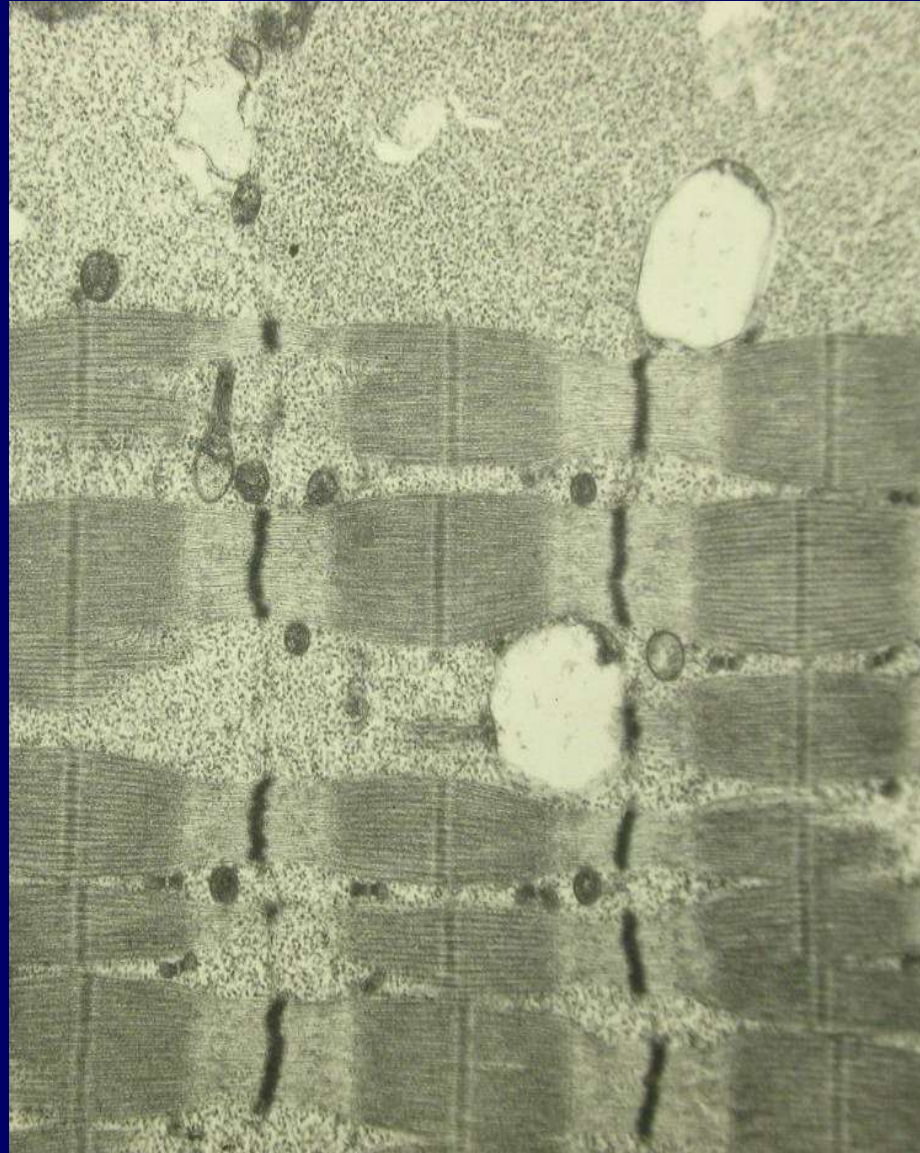
PAS



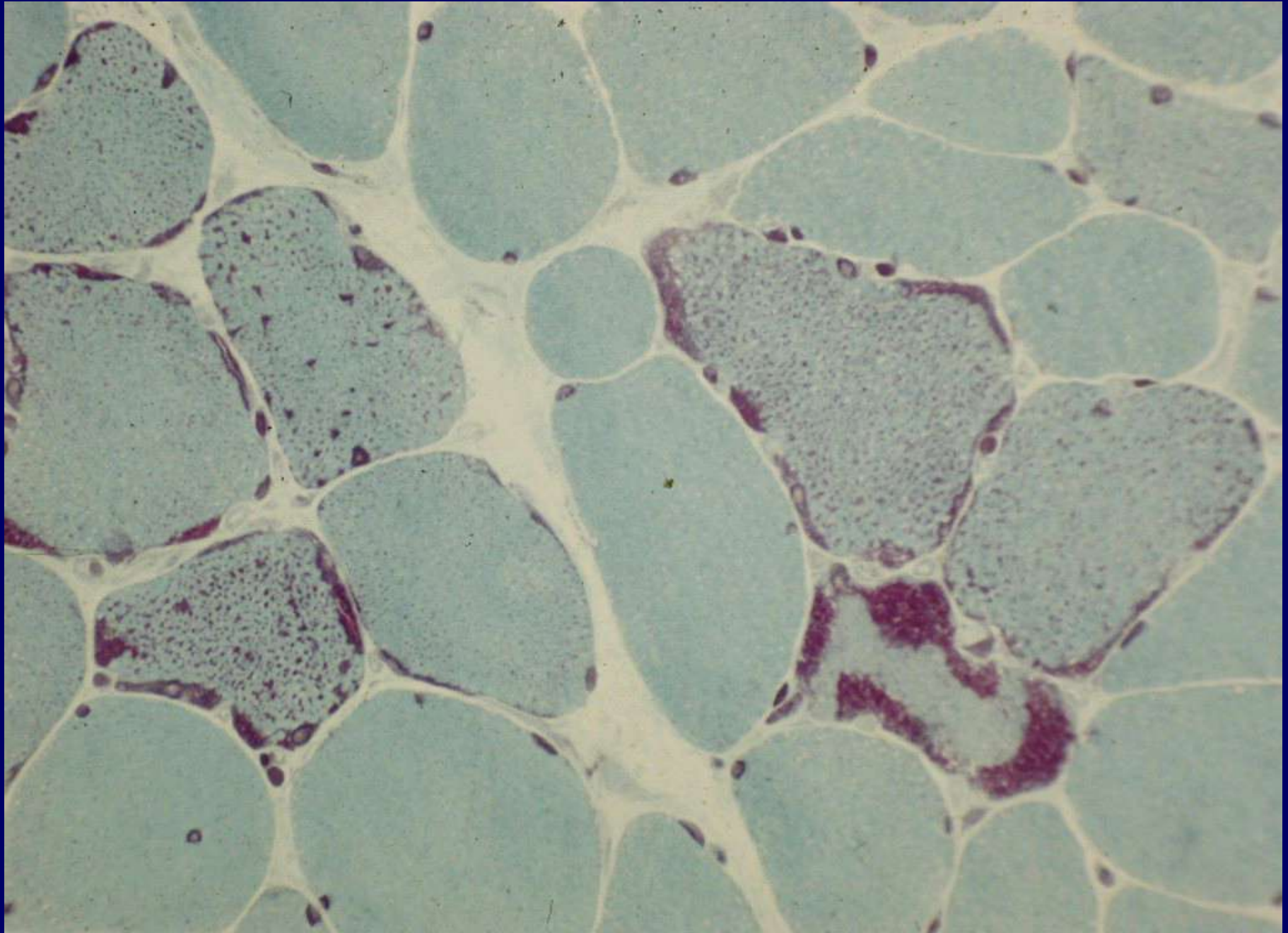
Glicogenose



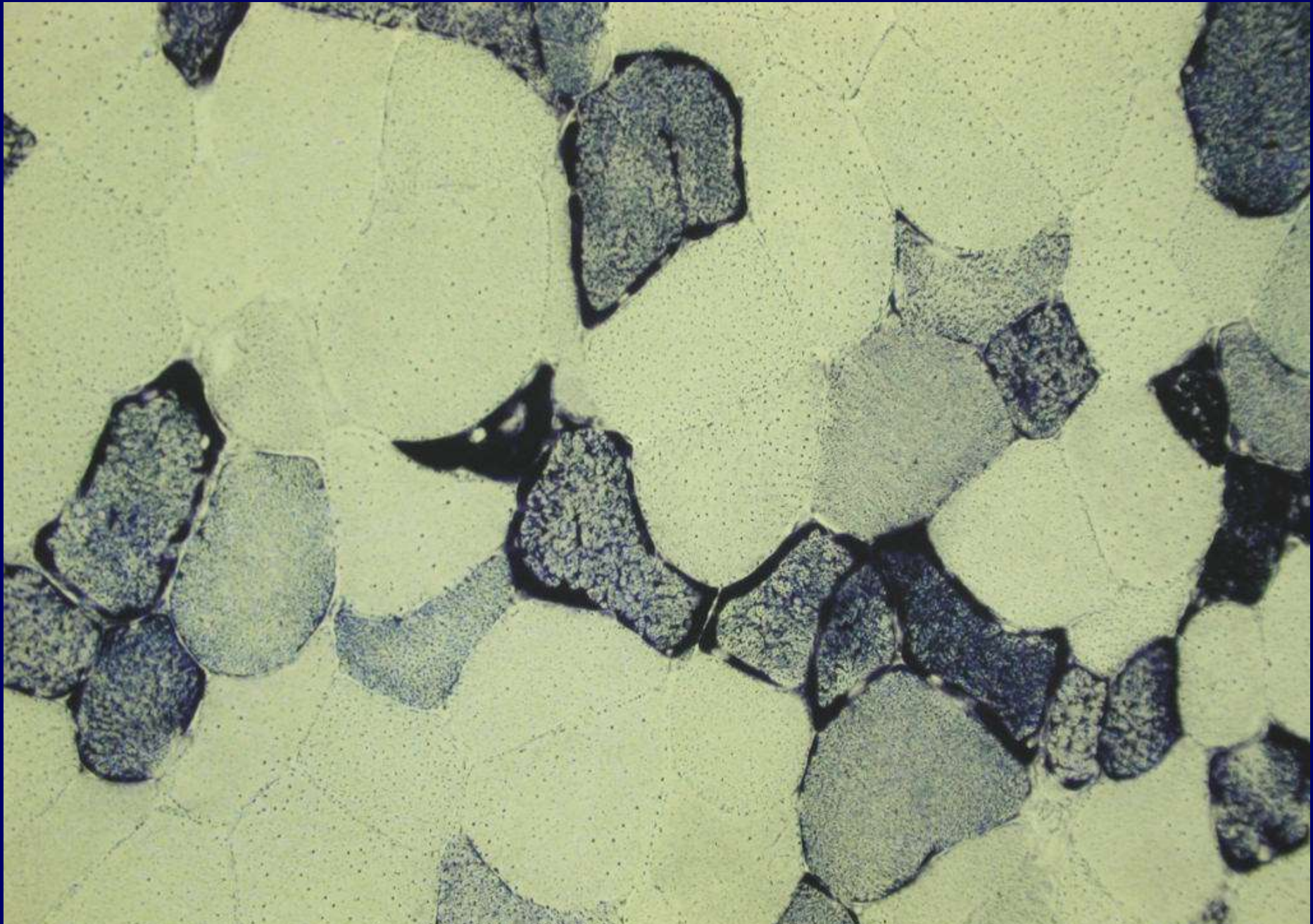
PAS - ME - ULTRA ESTRUTURAS



Fibras “ragged red” acúmulo de mitocôndrias na periferia



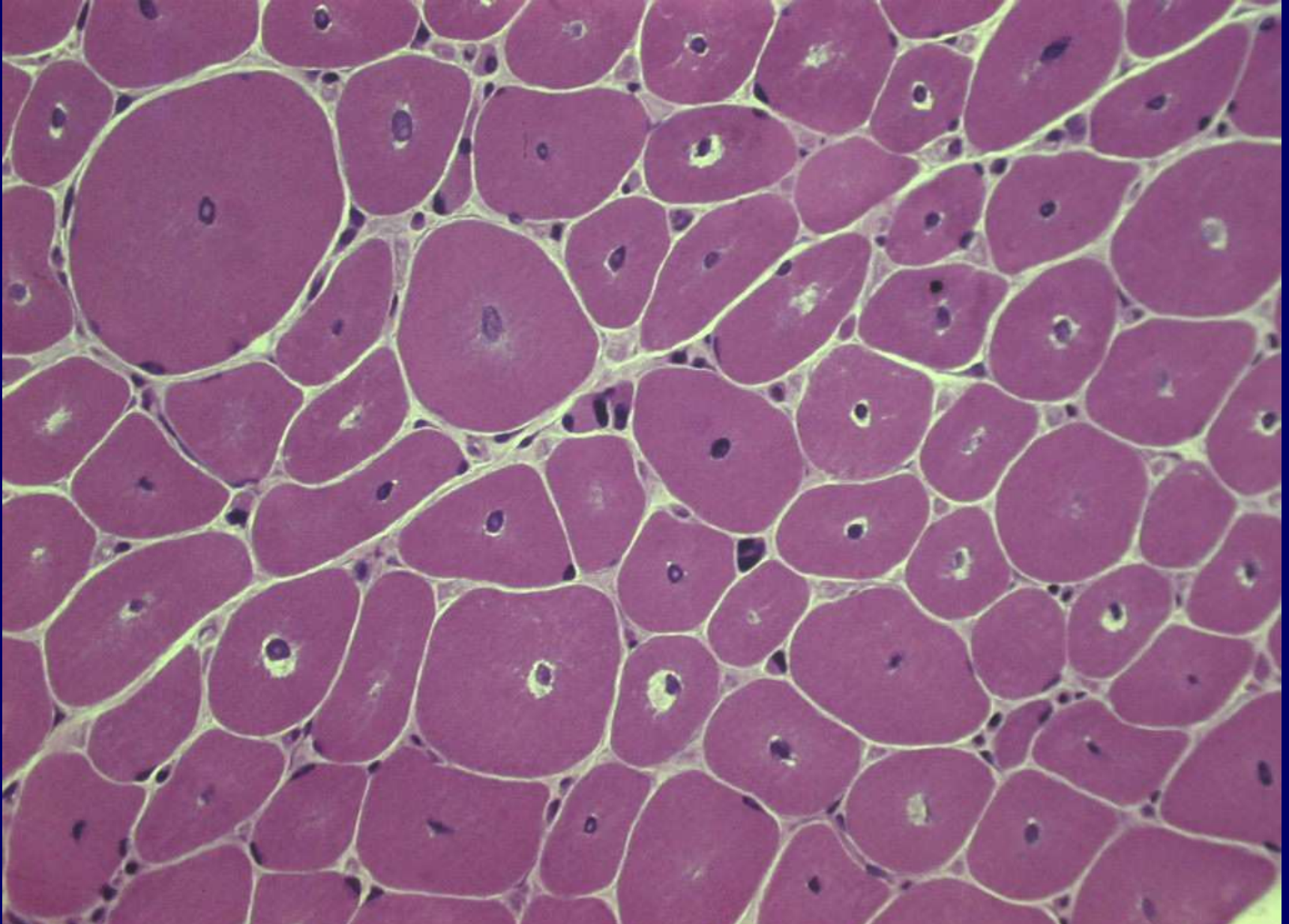
SDH – atividade oxidativa – mitocôndrias em preto



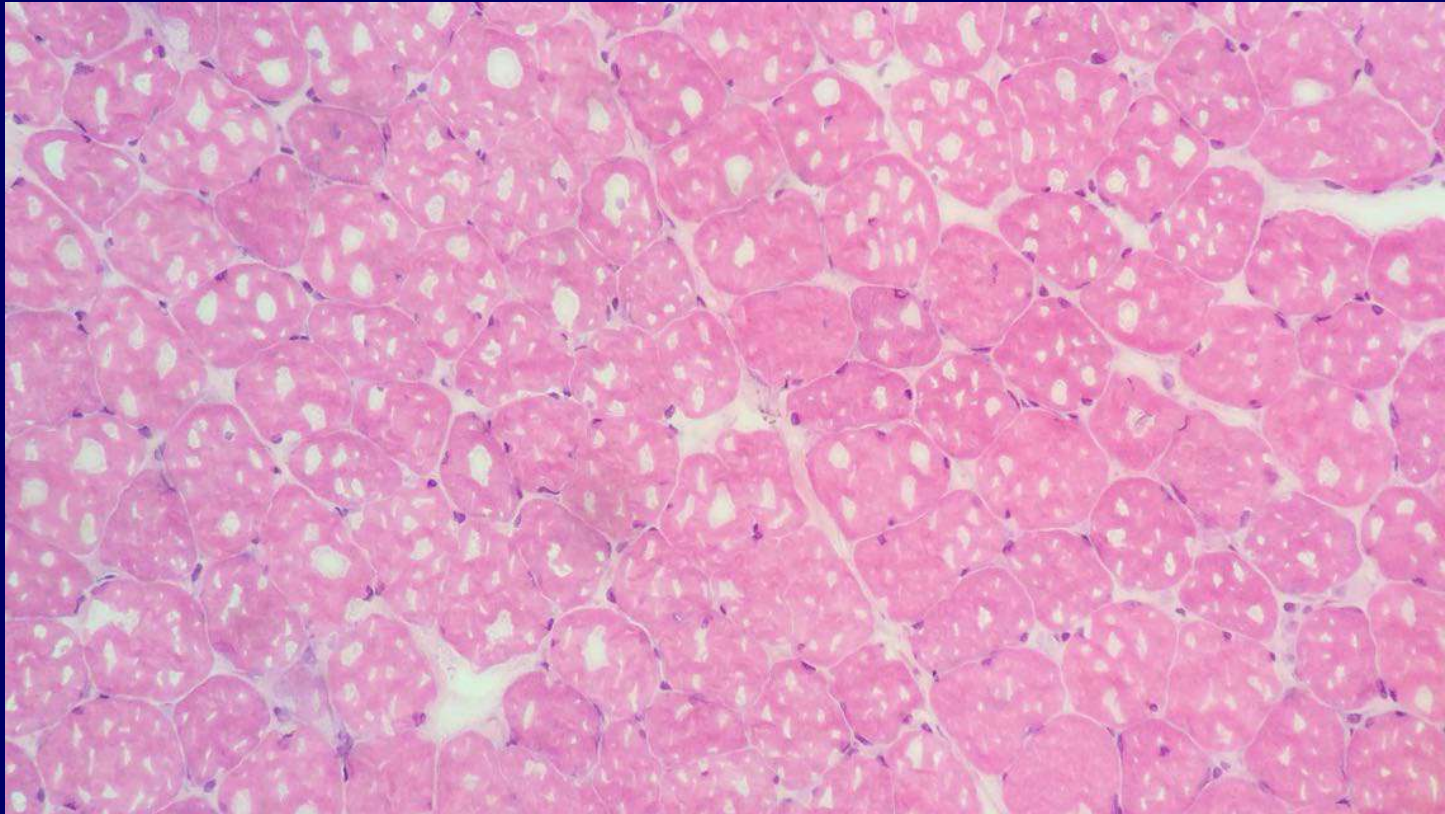
Processos Etiológicos

- Inflamatórias
- Metabólicas
- Congênitas
- Distrofias musculares
- Miopatias tóxicas
- Neurogênicas

Núcleos centrais – miopatia centronuclear



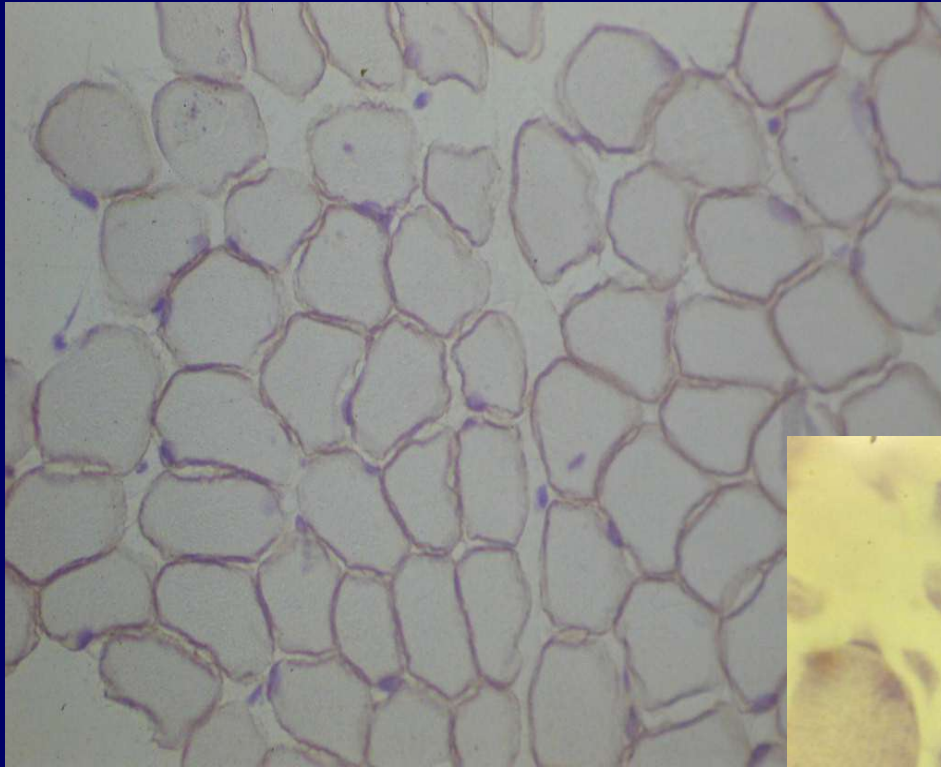
ARTEFATO DE CONGELAÇÃO



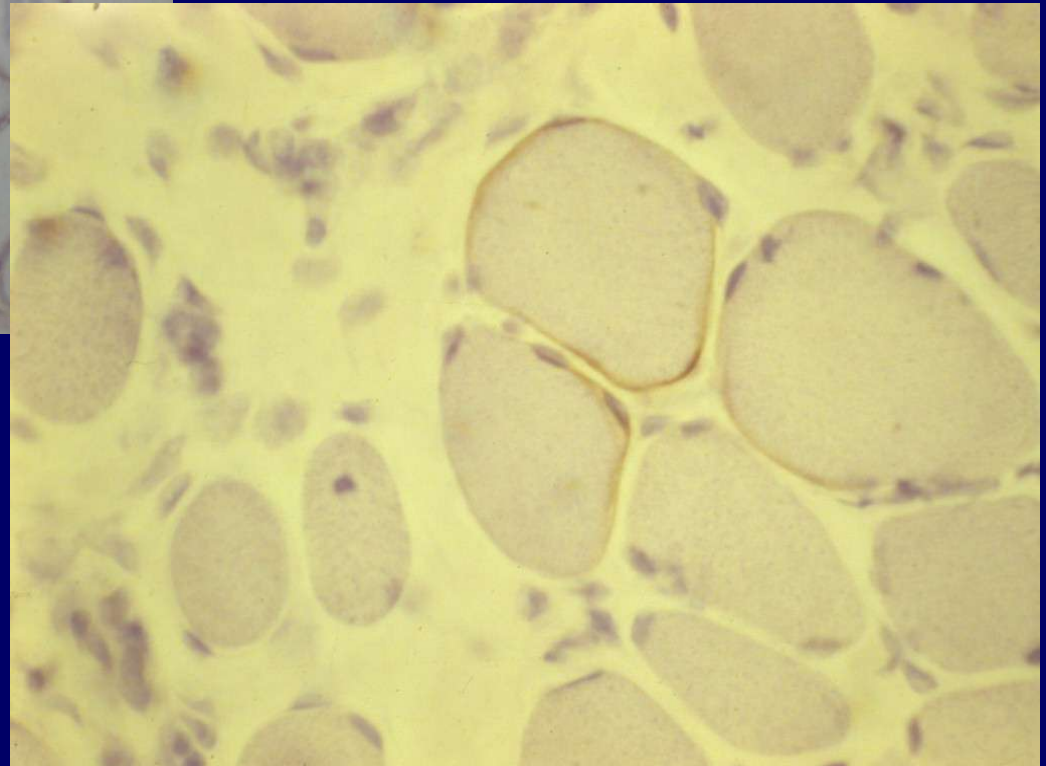
Processos Etiológicos

- Inflamatórias
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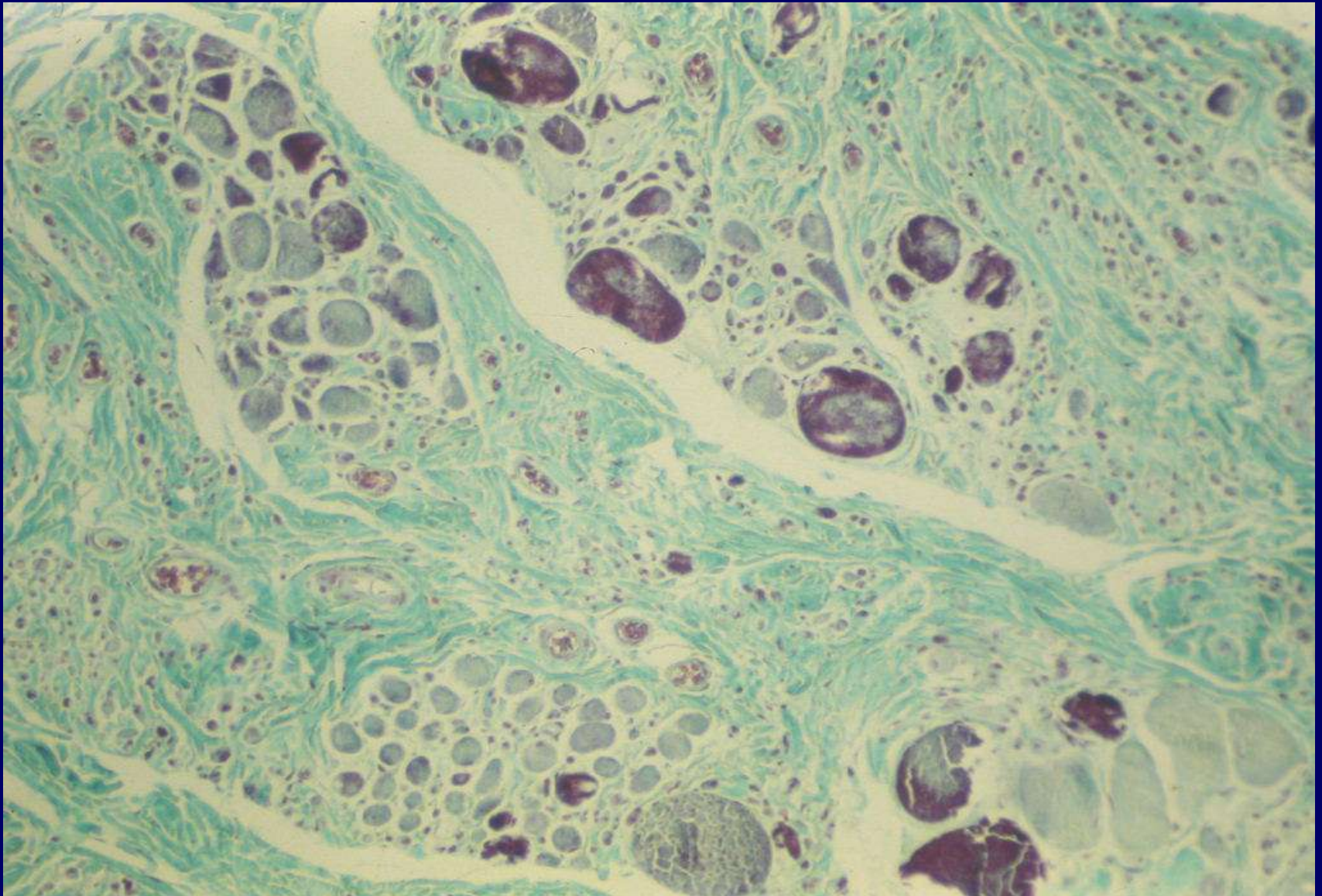
Imuno-histoquímica
Distrofina normal



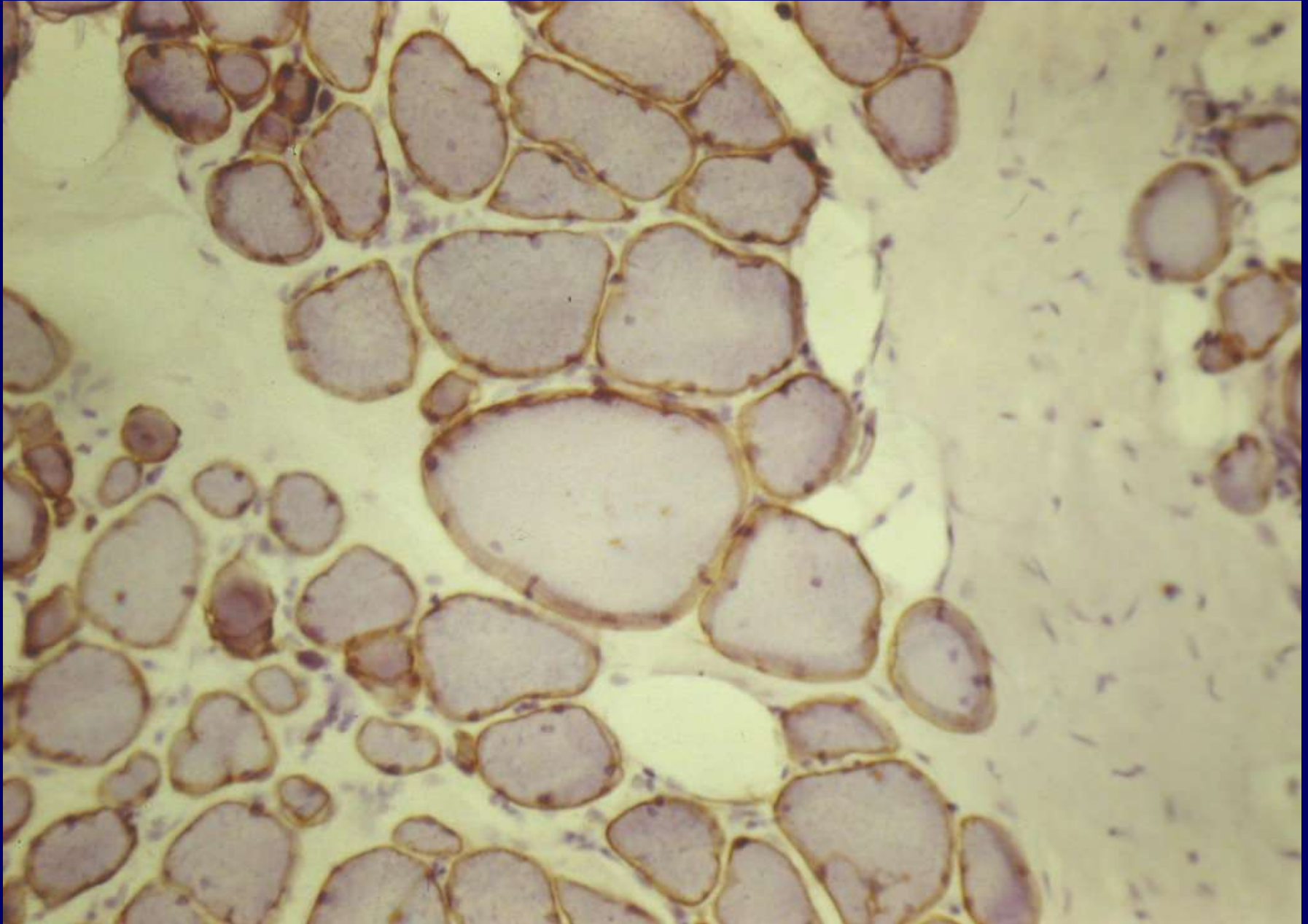
DISTROFIA
MUSCULAR
= Duchenne =



Tricromico de Gomori - Lesão antiga em Duchenne



Distrofina em outro exemplo - Escapulo-Humeral



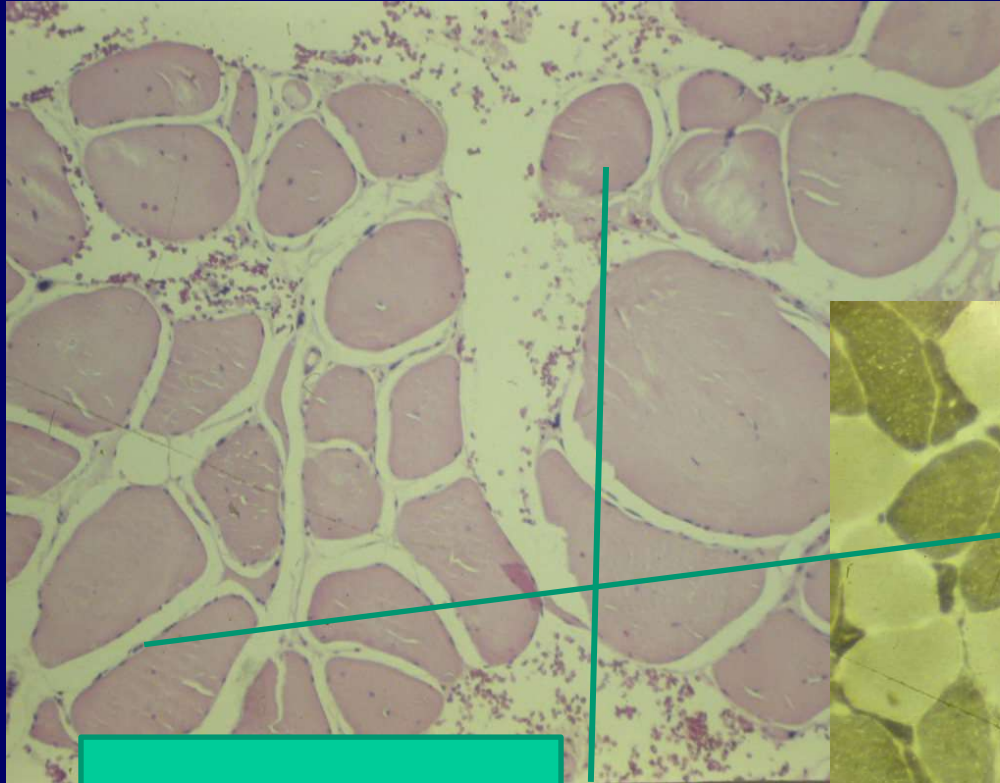
Processos Etiológicos

- Inflamatórias
- Metabólicas
- Congênitas
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- Neurogênicas

ETIOLOGIA NEUROGÊNICA

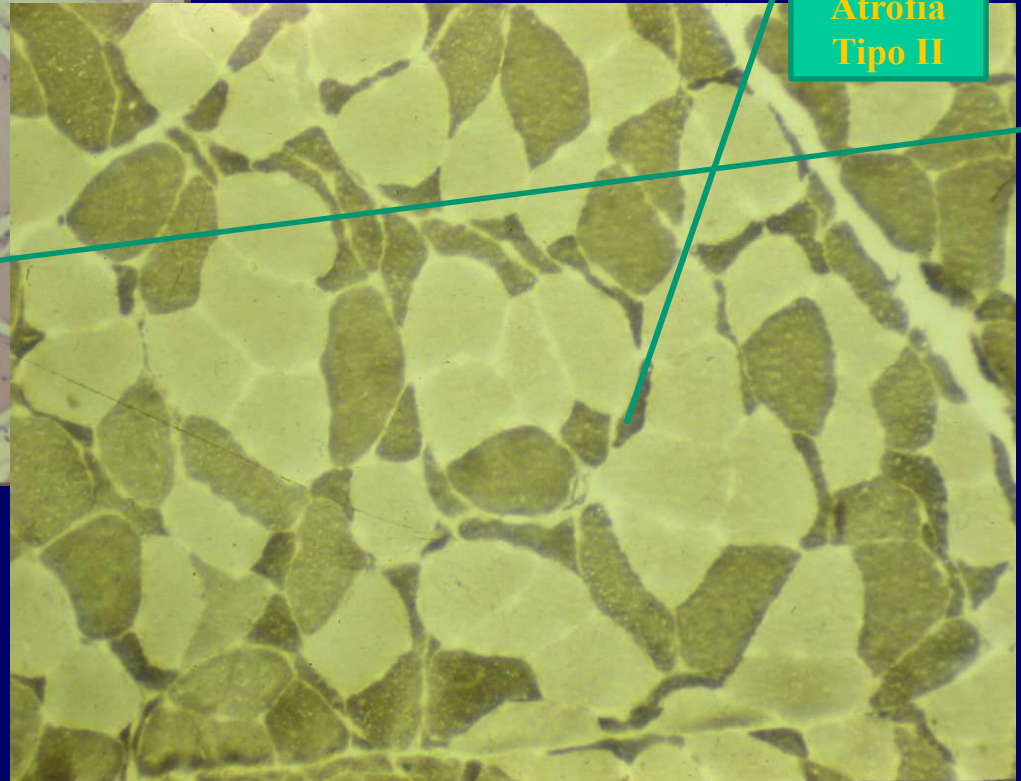
H&E

Atrofia e hipertrofia de fibras



**Fibras arredondadas
Volumosas e
atróficas**

ATPase pH 9.4.
Atrofia de fibras tipo II



**Atrofia
Tipo II**

A photograph of a modern, curved building at dusk. The building has a metallic, reflective surface and is illuminated from within, showing a grid-like structure. In the background, a mountain peak is visible against a blue sky. The text "FIM" is overlaid in the center.

FIM

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hpmarcos@gmail.com