LECTURE 9

,,SPECIFIC" BACTERIAL INFECTIONS

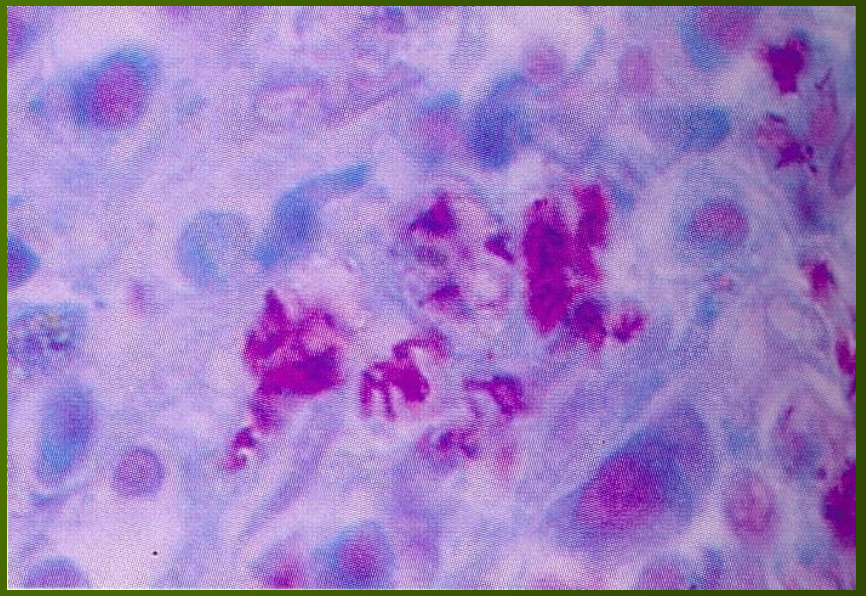
TUBERCULOSIS

TYPES OF *BACILLUS TUBERCULOSIS*

HUMAN TYPE

BOVINE TYPE

AVIAN TYPE



WAYS OF INFECTION

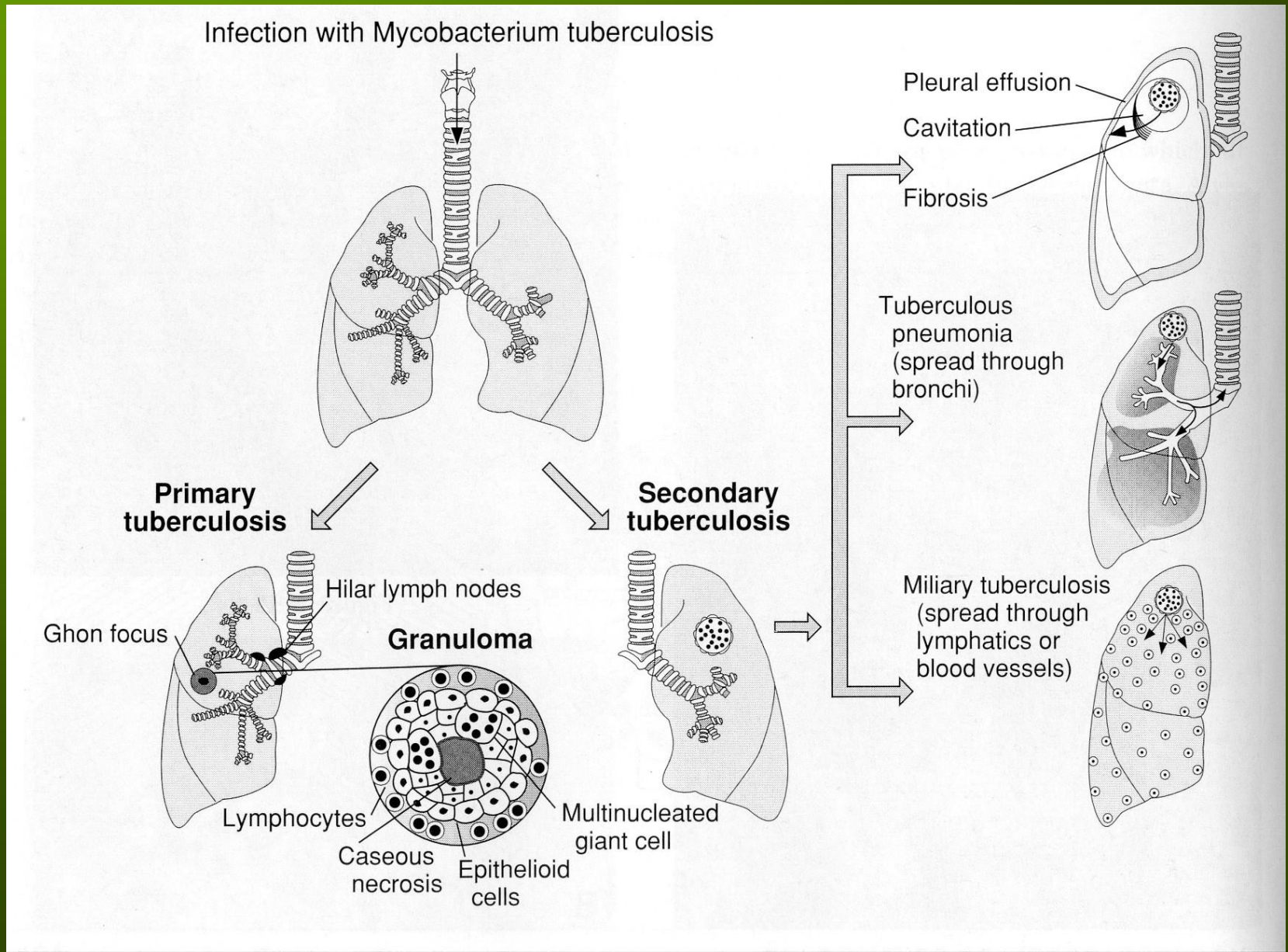
Pulmonary tract infection – human bacillus

Alimentary tract infection – human and bovine bacillus

Contact infection – All types of bacillus

DISSECTOR DIGIT - *TUBERCULUM ANATOMICUM*

TUBERCULOSIS PULMONUM – WAY OF INFECTION AND ITS DISSEMINATION



I. PRIMARY TUBERCULOSIS – *tuberculosis primaria*

1. **PRIMARY FOCUS (*focus primarius*) +**
2. **TUBERCULOUS INFECTION OF LYMPHATIC VESSELS (*lymphangitis tuberculosa*) +**
3. **TB INFECTION OF THE LYMPH NODES (*lymphadenitis tuberculosa*)**

1. + 2. + 3. = PRIMARY SYMPTOM COMPLEX (*complexus primarius*)

I. PRIMARY TUBERCULOSIS – *tuberculosis primaria - complexus primarius*

PULMONARY PRIMARY SYMPTOM COMPLEX – SUBPLEURAL PLACEMENT OF PRIMARY FOCUS AND SURROUNDING LYMPH NODE

The Ghon complex is seen here at closer range. Primary tuberculosis is the pattern seen with initial infection with tuberculosis in children. Reactivation, or secondary tuberculosis, is more typically seen in adults.

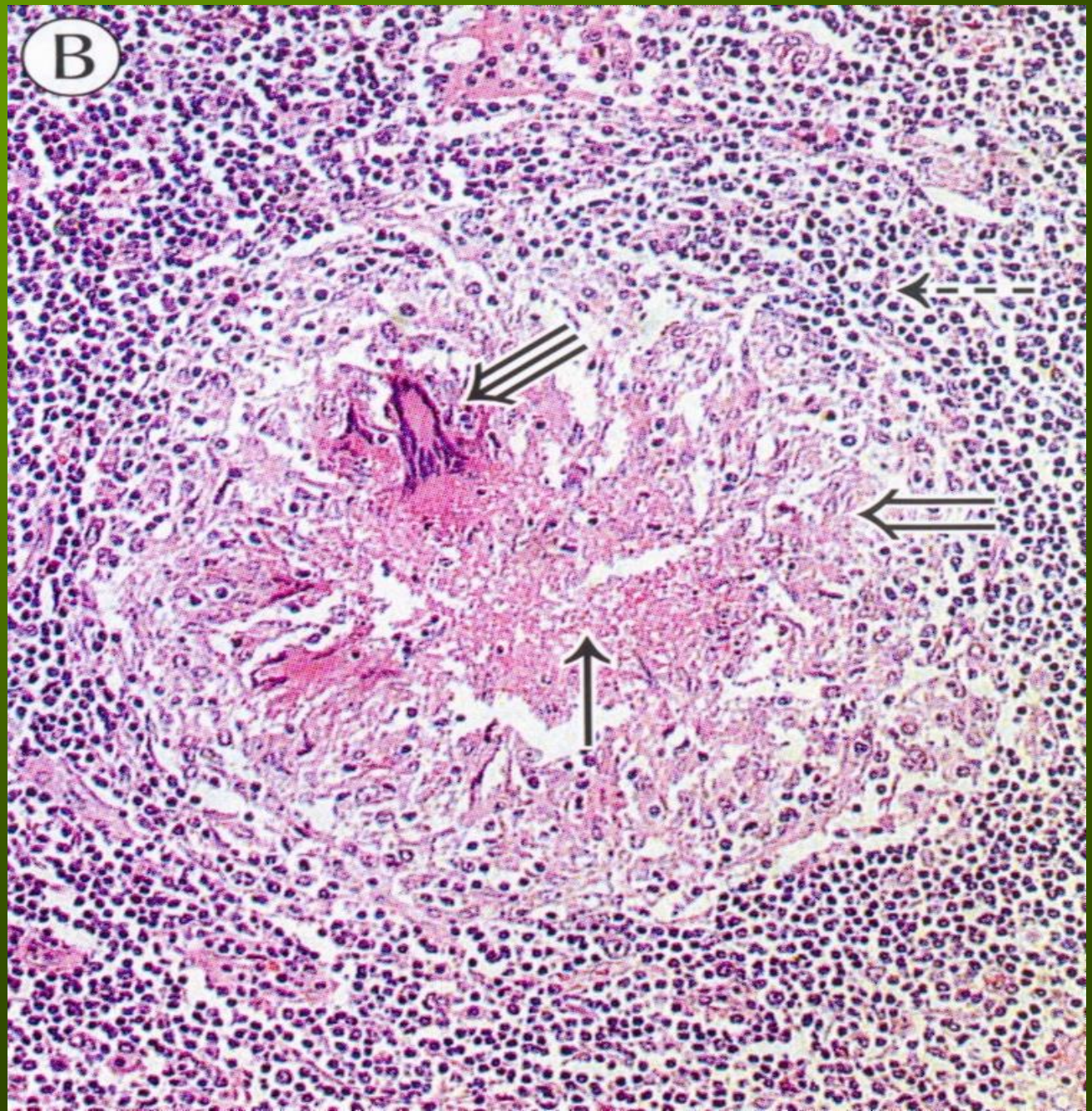
COURSE OF INFLAMMATION PROCESS

***BACILLUS* INVASION - SERO-FIBRINOUS INFLAMMATION; MACROPHAGES + CASEIFICATION**

TUBERCLE (*tuberculum*)

A structure consisting of modified macrophages – epithelioid cells (*cellulae epithelioidales*), giant multinucleated Langhans cells and lymphocytes, which succumb to caseification, do not contain blood vessels

TUBERCULUM - TUBERCLE



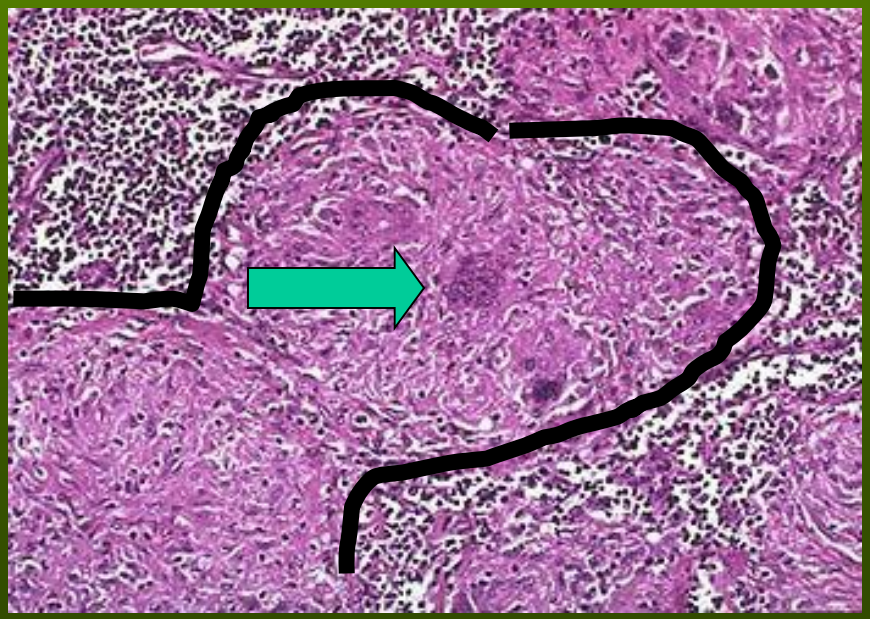
CASEIFICATION – NECROSIS IN TBC

CASEIFICATION

EPITHELIOID CELLS

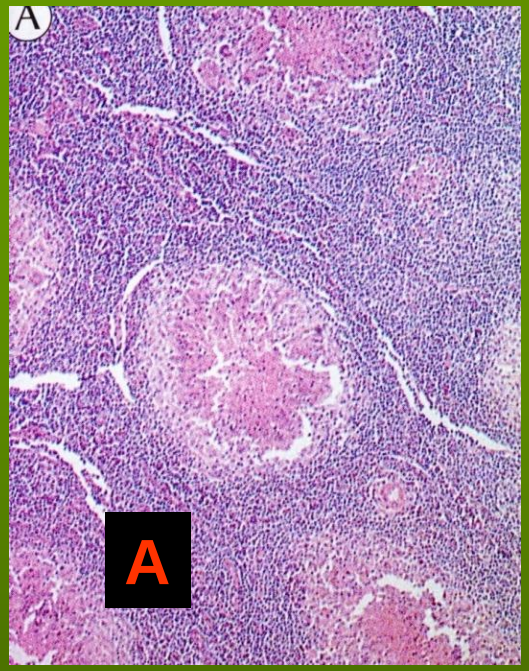
OTHER LOCALIZATIONS OF PRIMARY FOCUS

1. LUNGS – HILAR LYMPH NODES
2. SMALL INTESTINE – MESENTERIC LYMPH NODES
3. TONSILS – SUBMANDIBULAR LYMPH NODES
4. SKIN, CONJUNCTIVA, REPRODUCTIVE SYSTEM



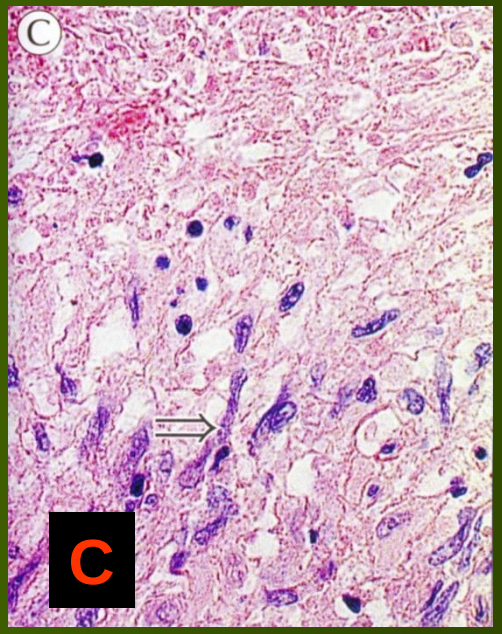
1. GRANULOMA
2. GIANT CELLS

TUBERCLE – *TUBERCULUM* – CELLULAR STRUCTURE

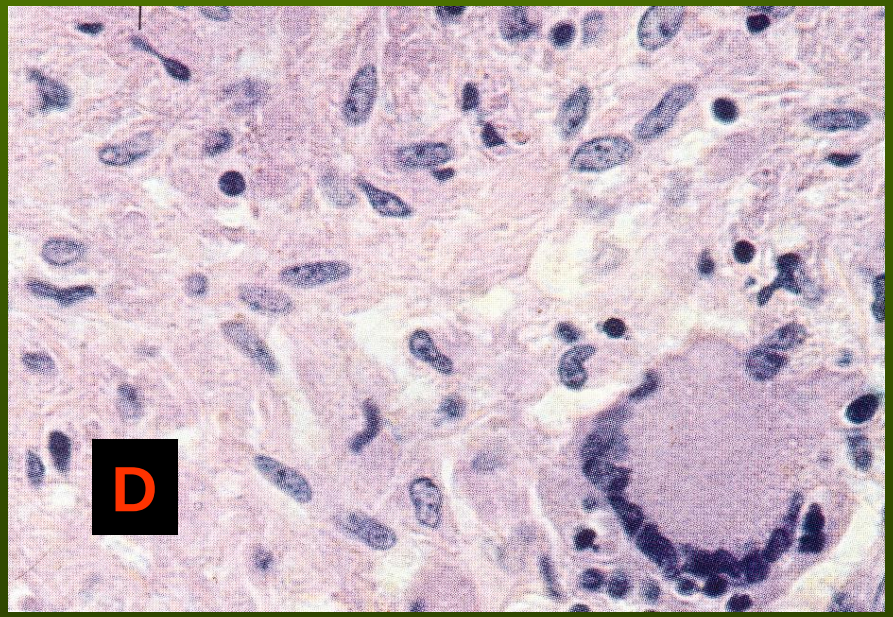


A. CASEIFICATION OF TUBERCLE IN LYMPH NODE

B. GIANT LANGHANS CELL AND LYMPHOCYTES



C. EPITHELIOID CELLS WITH NECROSIS



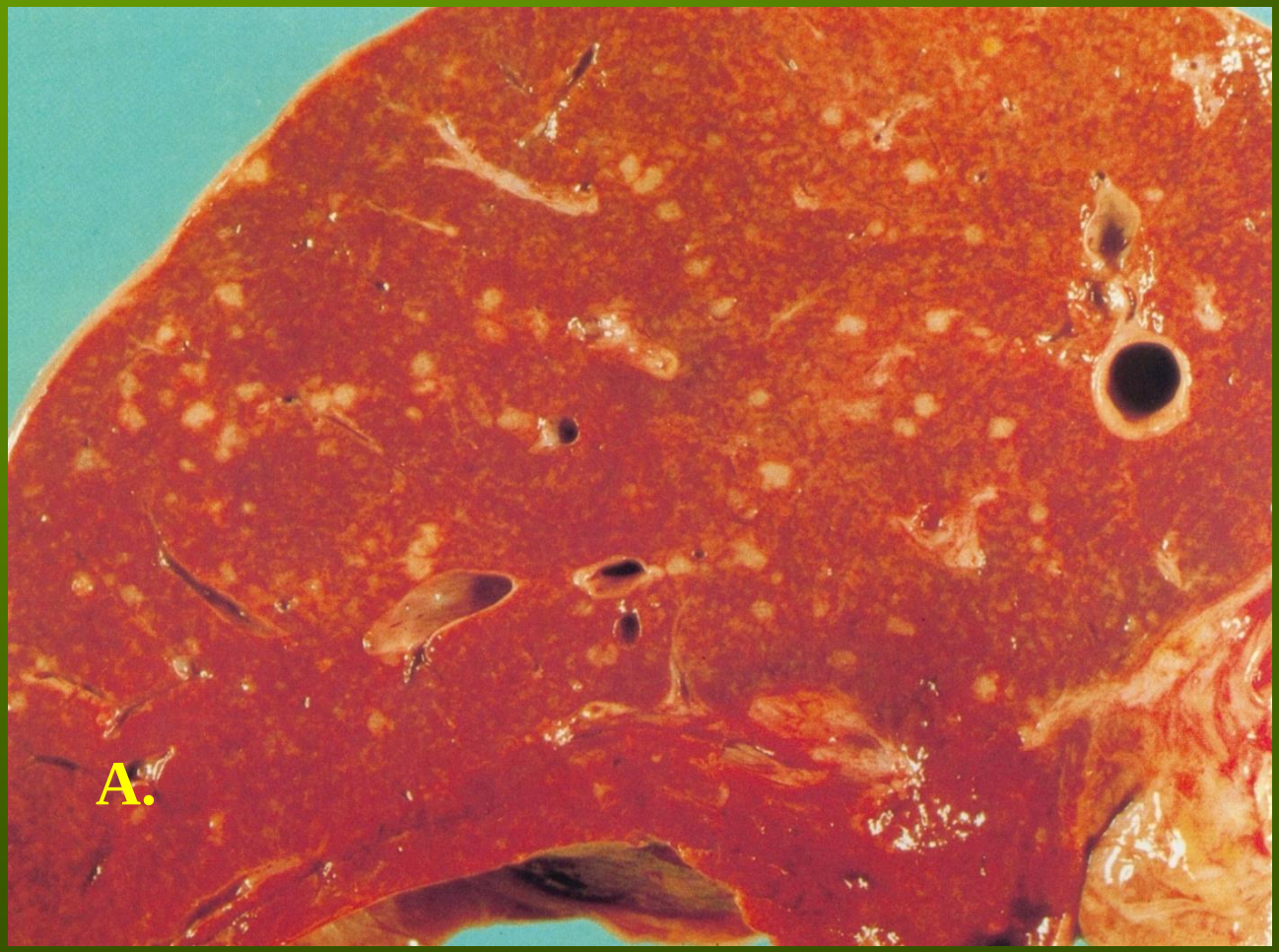
D. FRAGMENT OF TUBERCLE WITH EPITHELIOID CELLS AND LANGHANS CELL – NO BLOOD VESSELS

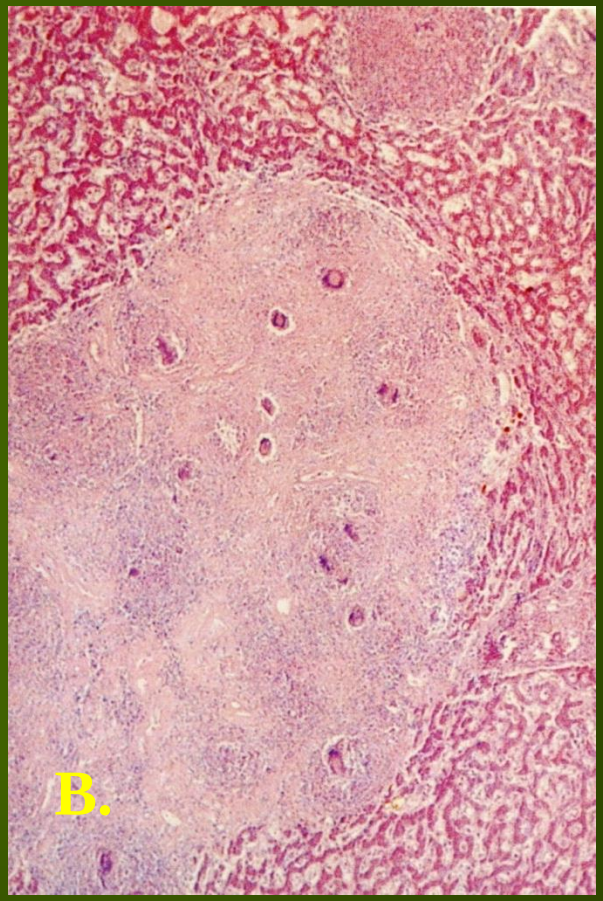
TUBERCULOSIS LYMPHONODULORUM CERVICALIUM

SCROFULOSIS – SCROFULOSIS

MANY FISTULAS CAUSED BY PERFORATION OF LIQUID CASEOUS MASSES

II. GENERALIZED TUBERCULOSIS (HEMATOGENIC)

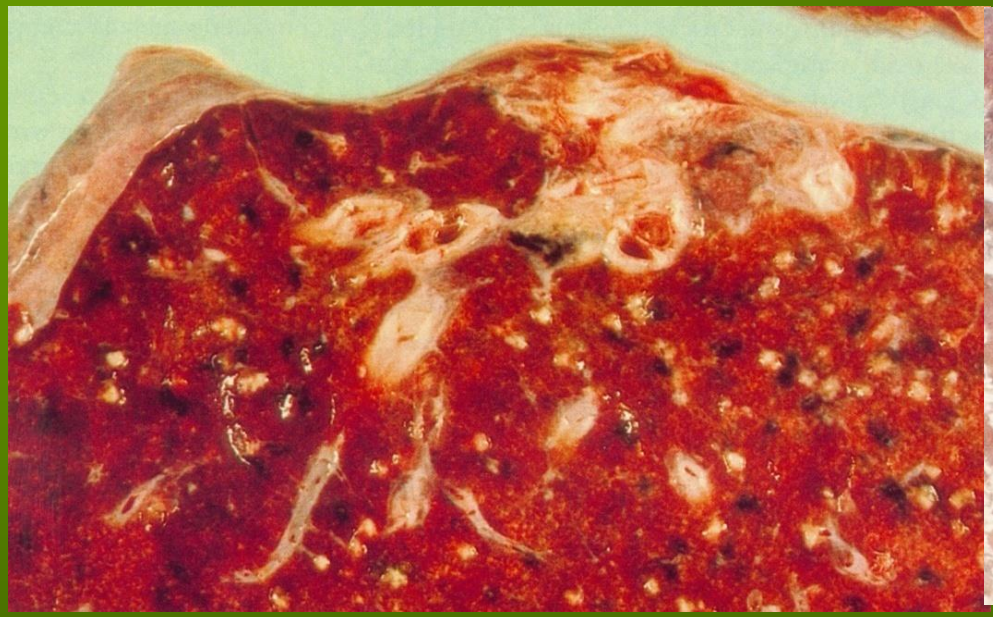


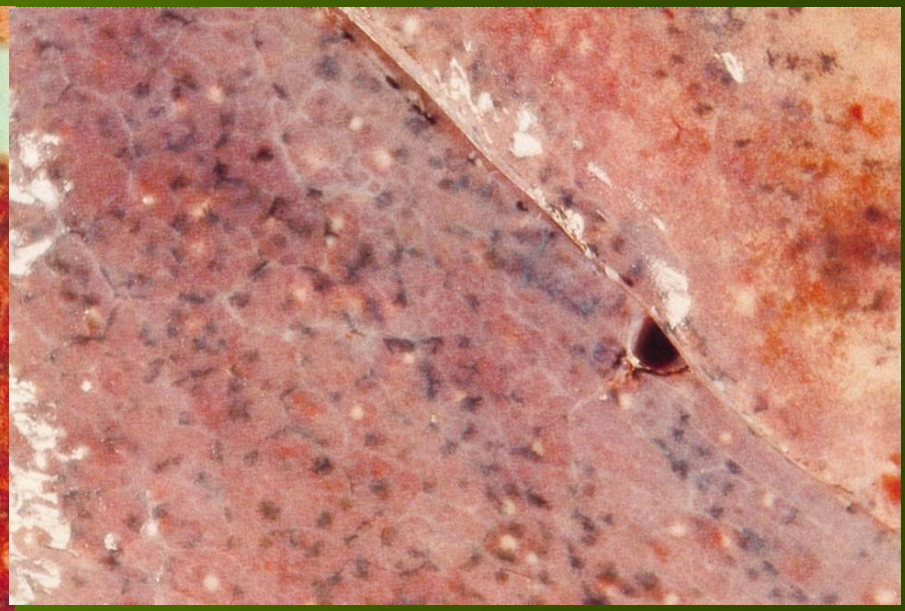


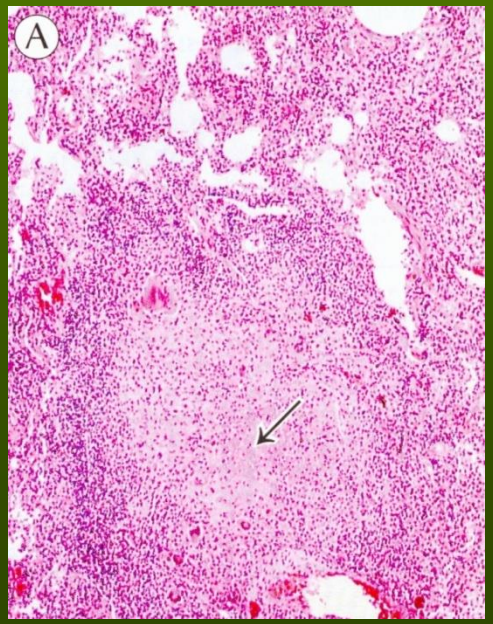
MILIARY LIVER TUBERCULOSIS

A. MACROSCOPIC PICTURE B.MICROSCOPIC PICTURE

II. GENERALIZED TUBERCULOSIS (HEMATOGENIC)

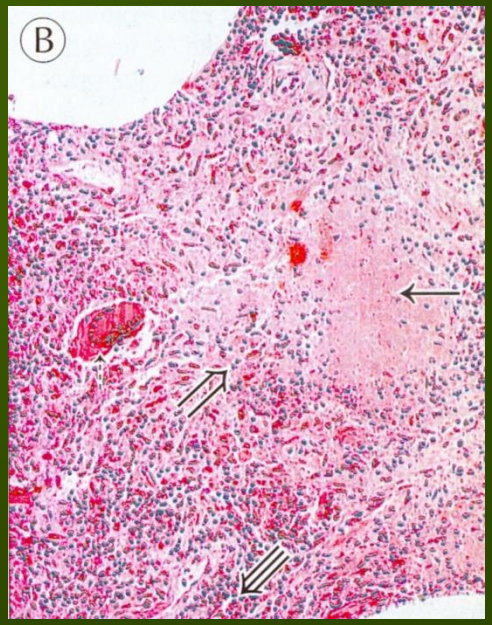




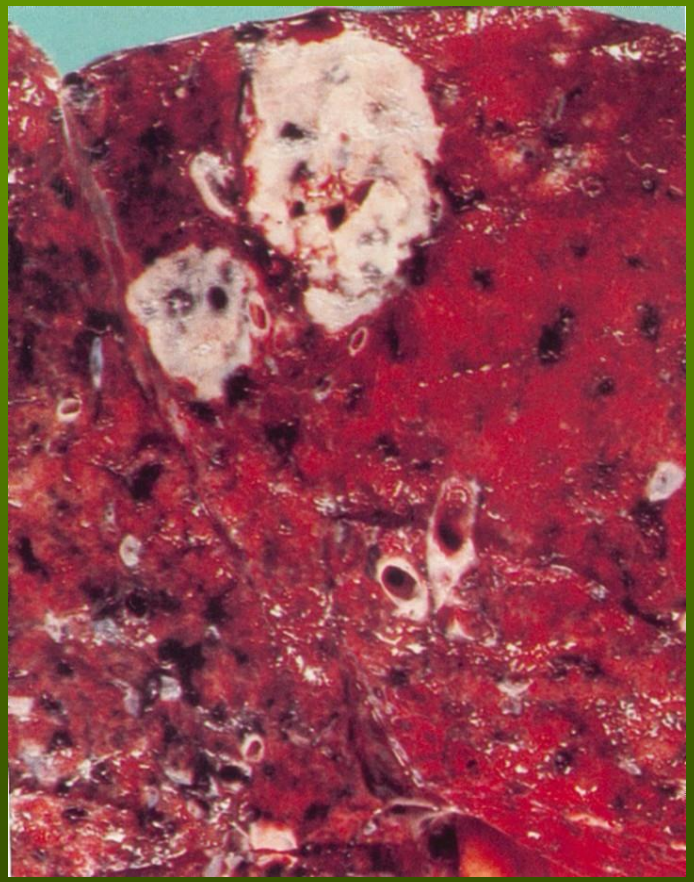


TUBERCULOSIS MILIARIS PULMONUM

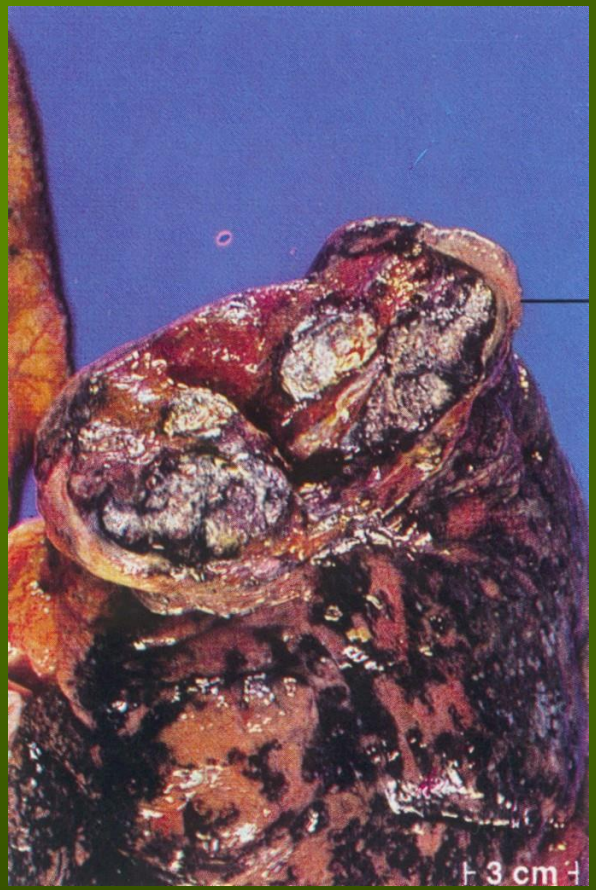
MILIARY TUBERCULOSIS IN LUNGS (SMALL WHITE SPOTS)



III. GENERALIZED TUBERCULOSIS



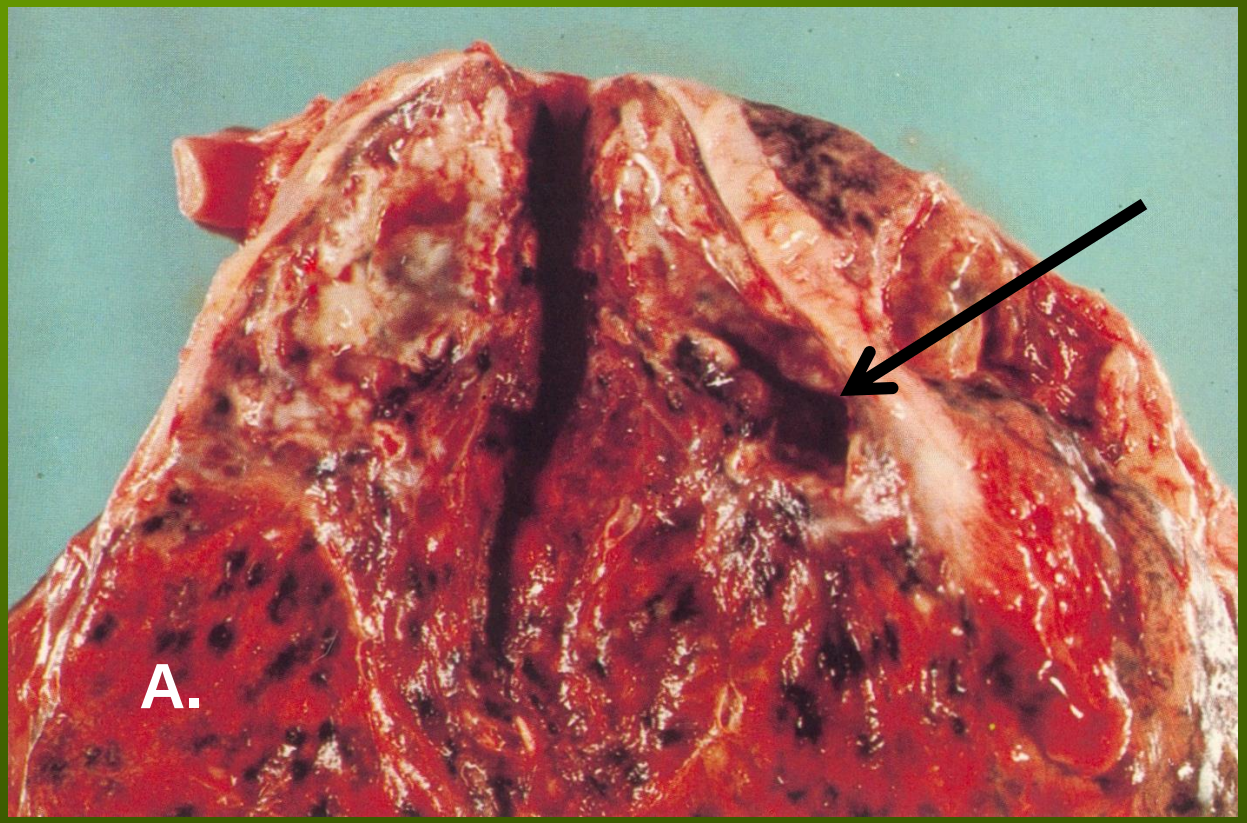
ACINAR TUBERCULOSIS

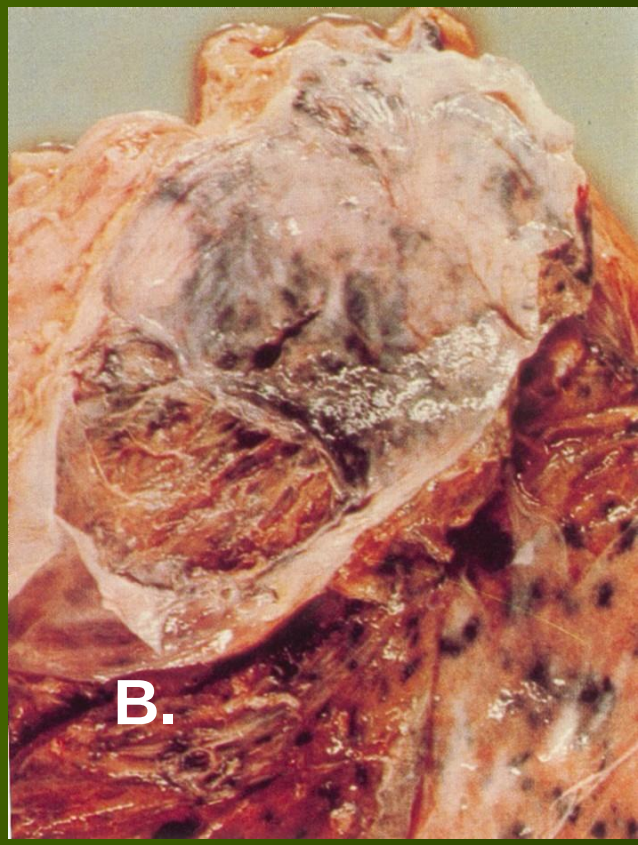


NODULO-FIBROTIC TUBERCULOSIS IN APEX OF THE LUNG

TUBERCULOMA

III. GENERALIZED TUBERCULOSIS



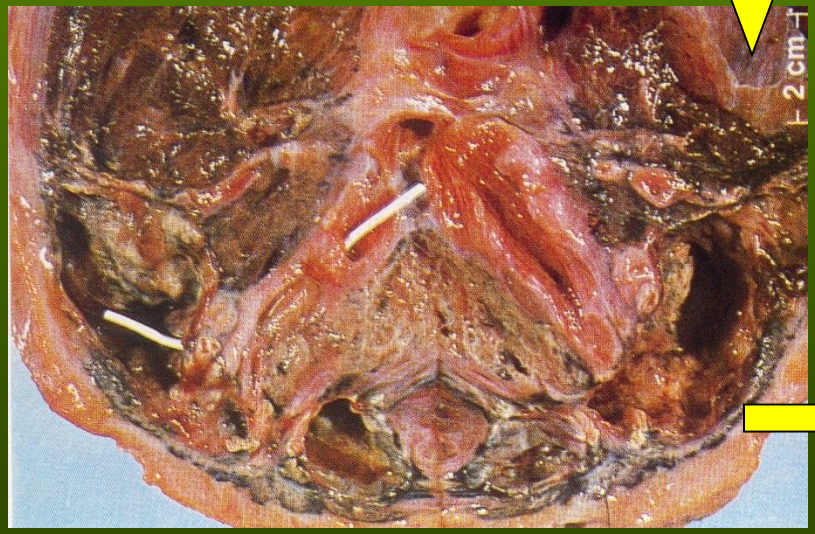


A. CAVERNOUS TUBERCULOSIS OF THE LUNG (RECENT CAVERN)
B. CAVERNOUS TUBERCULOSIS OF THE LUNG (OLD CAVERN)

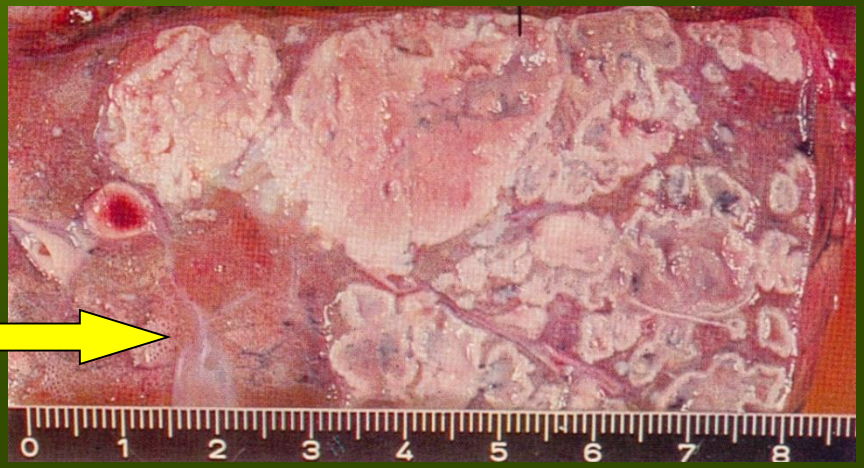
III. GENERALIZED TB

RECENT CAVERN

ACINO-NODULAR TUBERCULOSIS

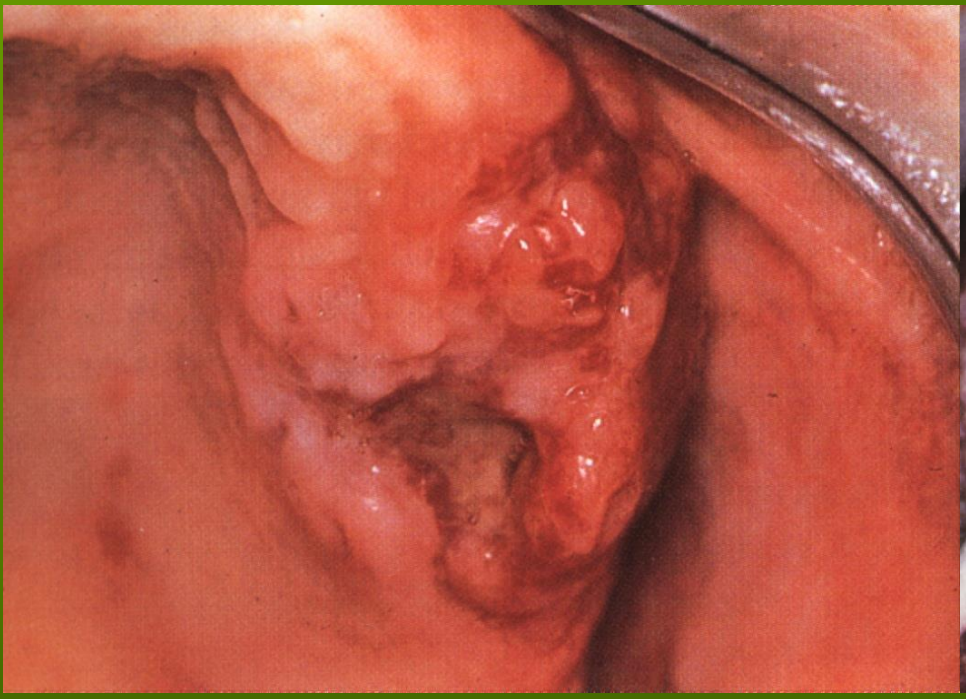


RECENT CAVERN – DRAINAGE OF CAVERN BY A BRONCHUS

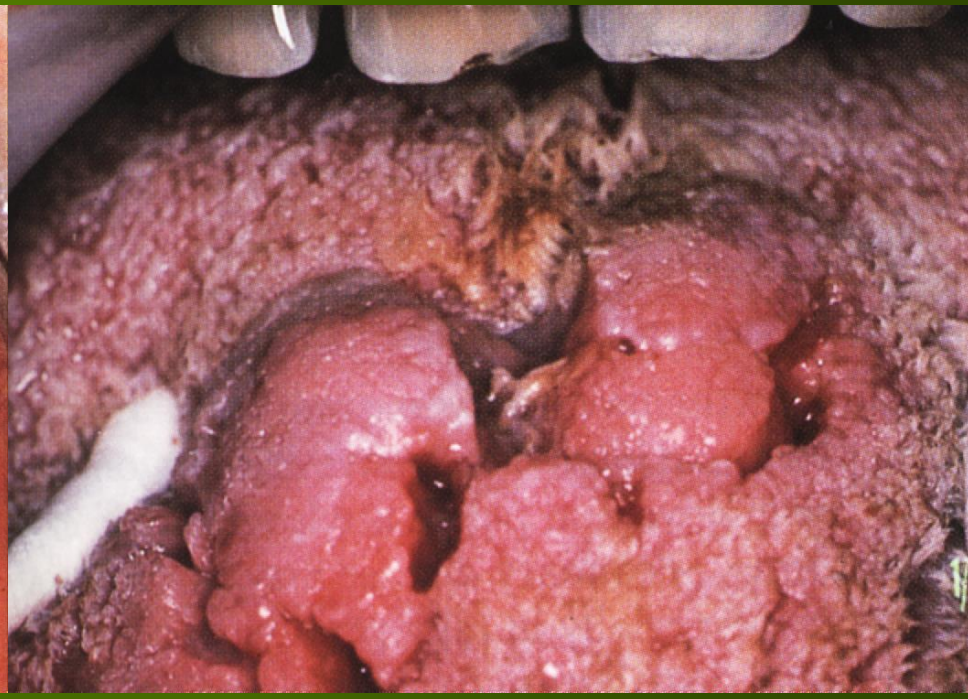


CASEOUS PNEUMONIA - PHTHISIS FLORIDA

III. GENERALIZED TB

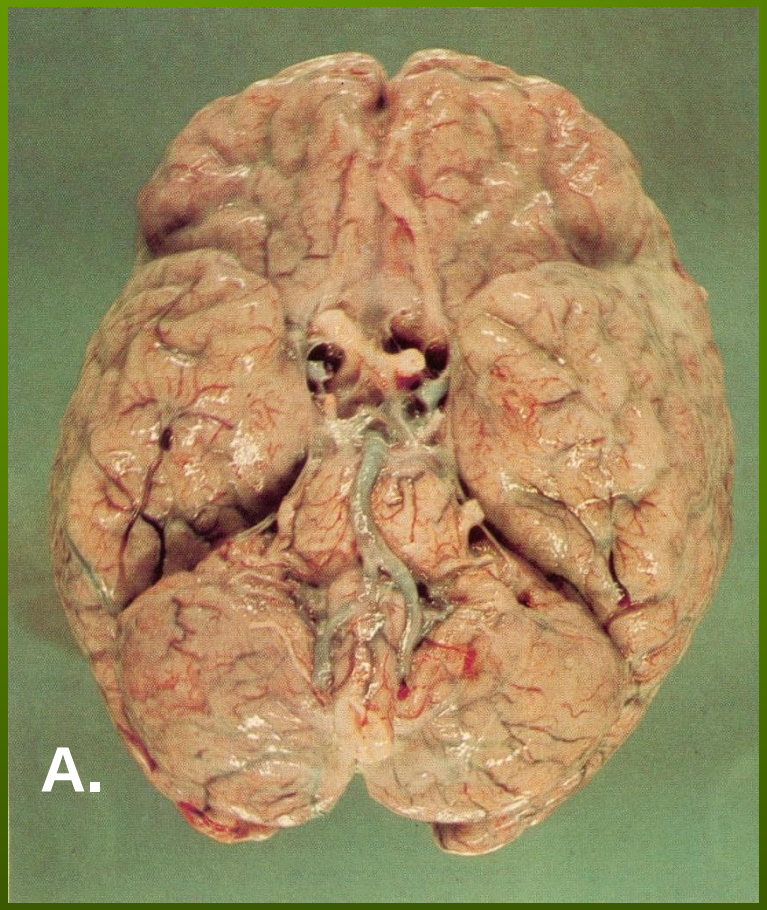


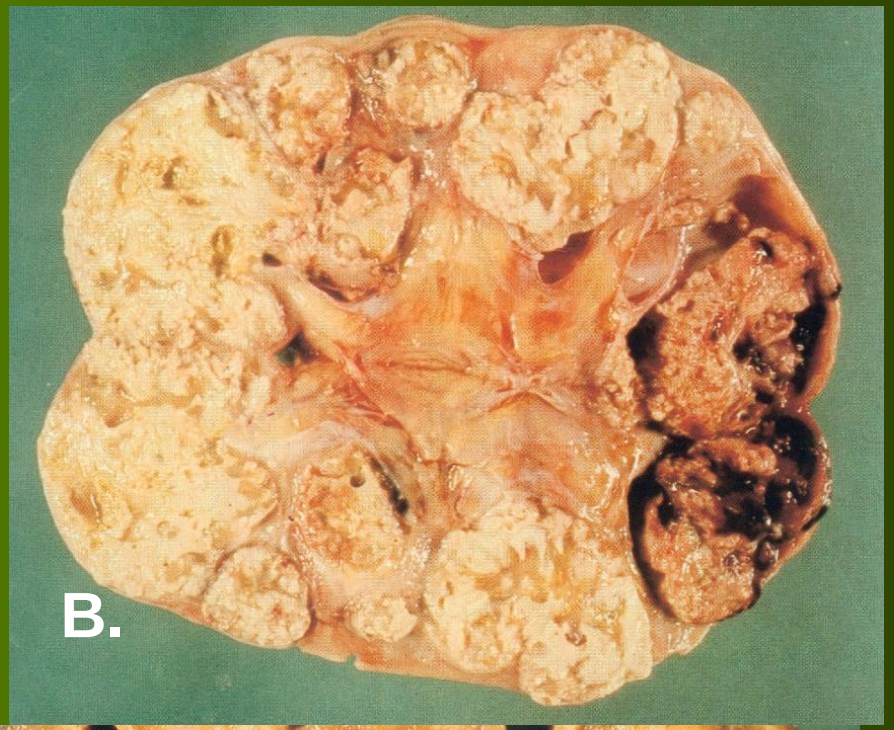
ULCEROUS TUBERCULOSIS OF GINGIVA



TUBERCULOSIS OF THE TONGUE

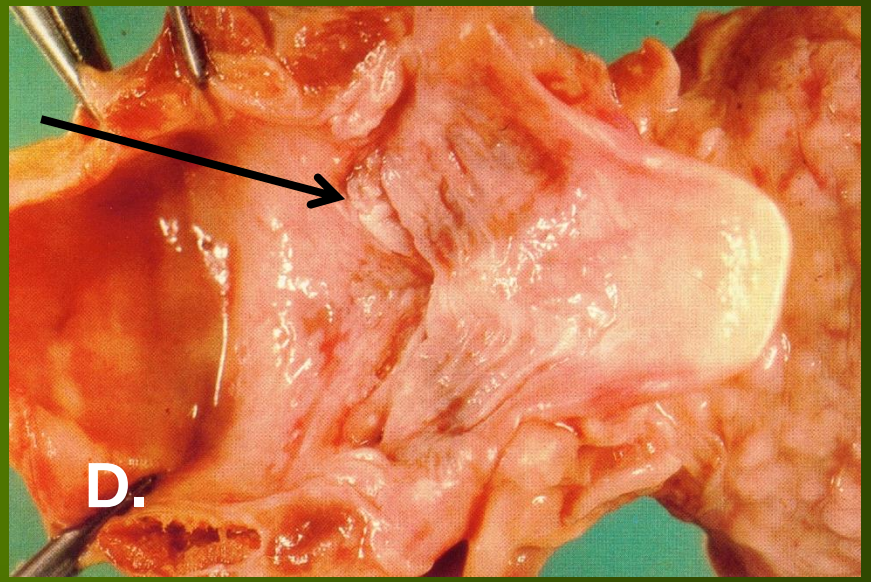
III. GENERALIZED TB

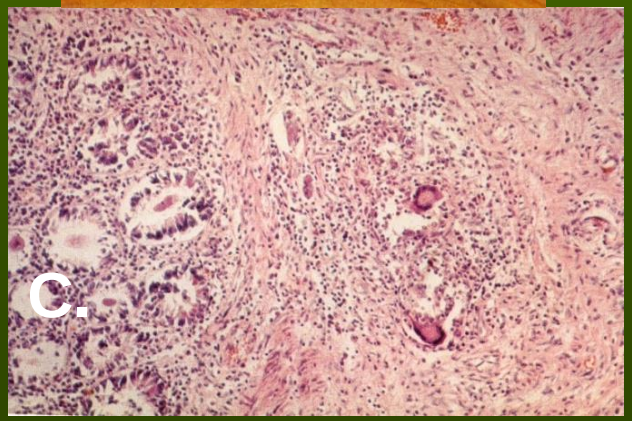




A. TUBERCULOUS LEPTOMENINGITIS (BASILAR)
B. CASEOUS TUBERCULOSIS (KIDNEY)
C. CASEO-CAVERNOUS TUBERCULOSIS (KIDNEY)

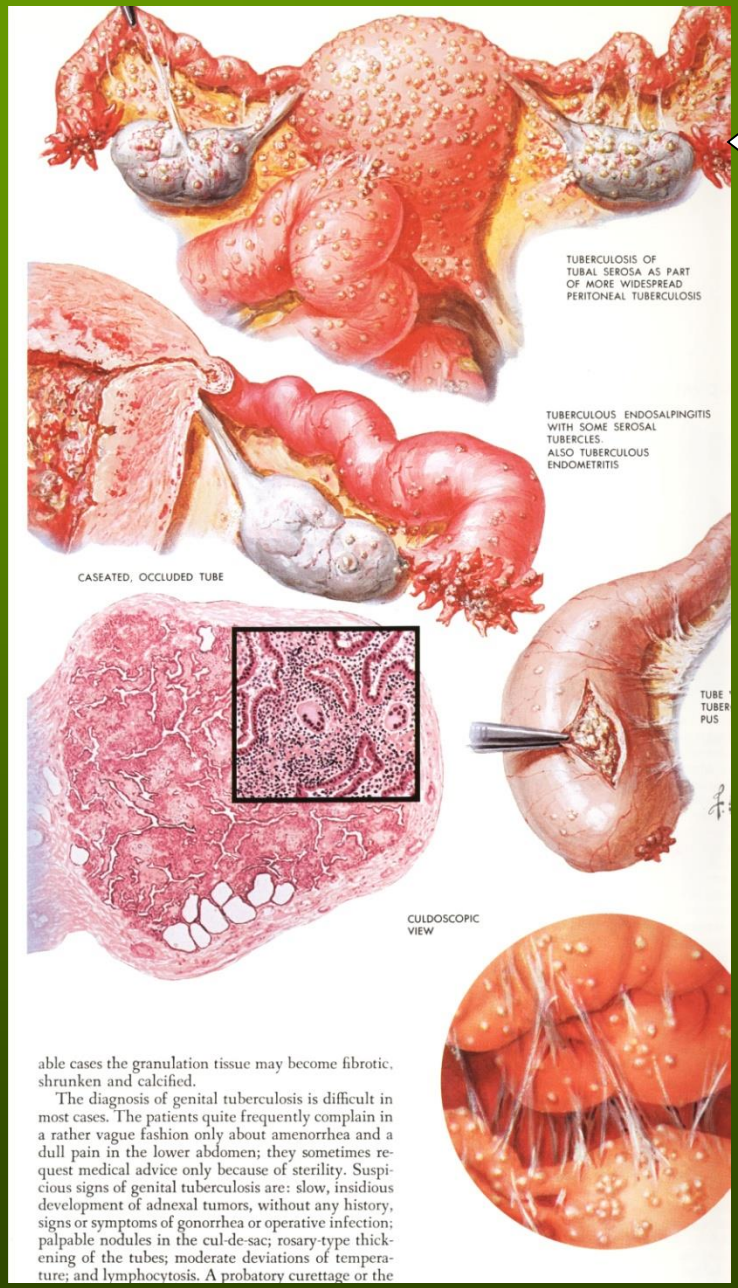
III. GENERALIZED TUBERCULOSIS





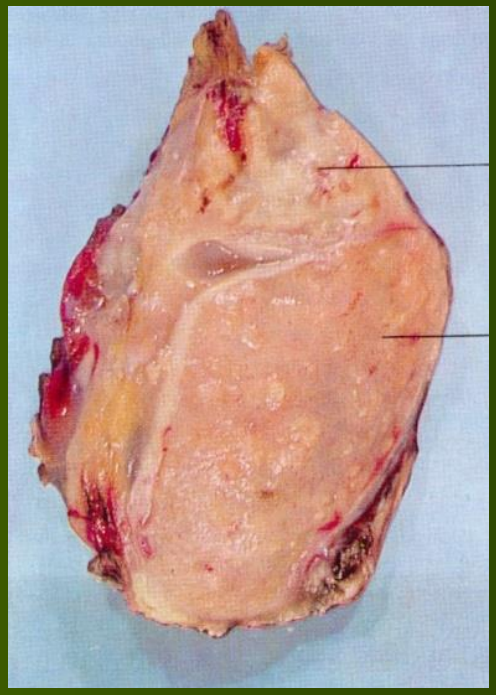
A. ULCEROUS TUBERCULOSIS (SMALL INTESTINE)
B. ULCEROUS TUBERCULOSIS (SMALL INTESTINE)
C. TBC OF SMALL INTESTINE (MICROSCOPIC)
D. TUBERCULOSIS OF THE LARYNX

III. GENERALIZED TB



TUBERCULOSIS IN FEMALE REPRODUCTIVE SYSTEM

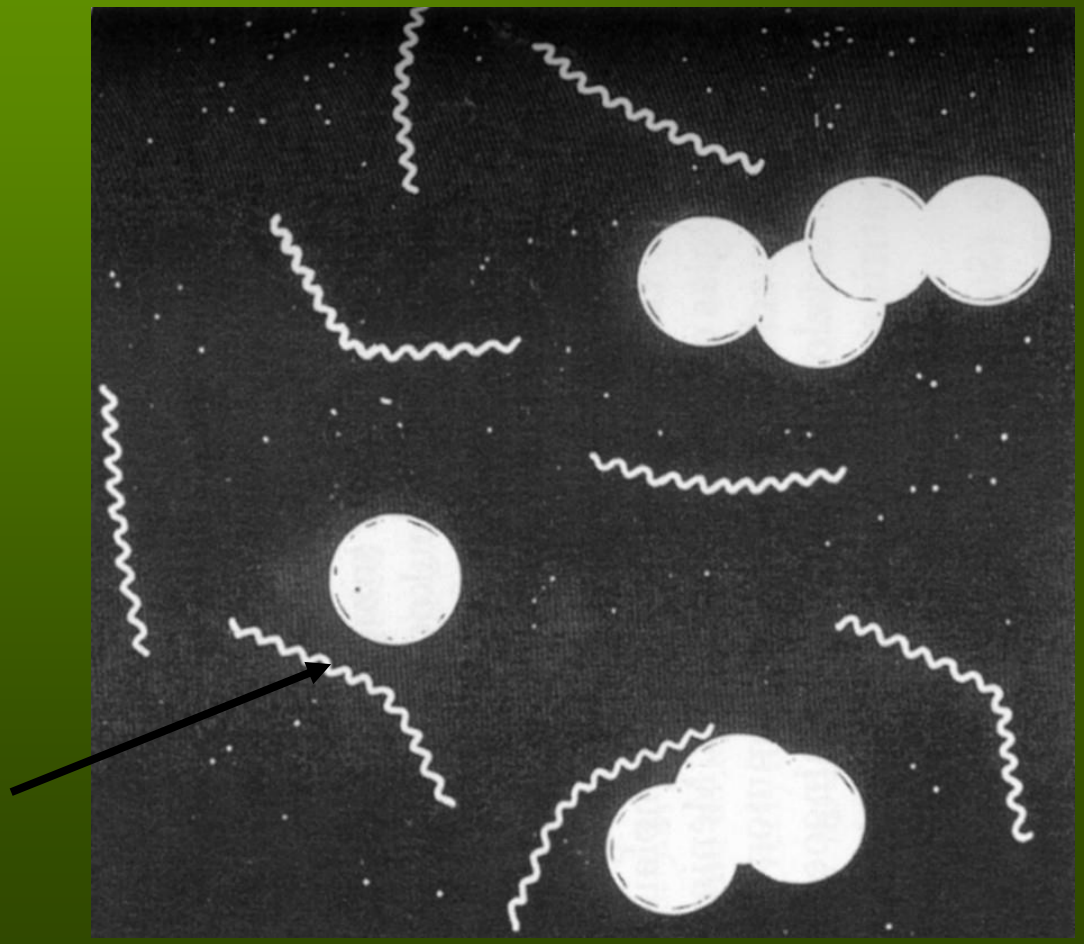
TUBERCULOSIS IN MALE REPRODUCTIVE SYSTEM (EPIDIDYMITIS TBC)



TUBERCULOSIS IN BONES (OSTEOMYELITIS TBC)

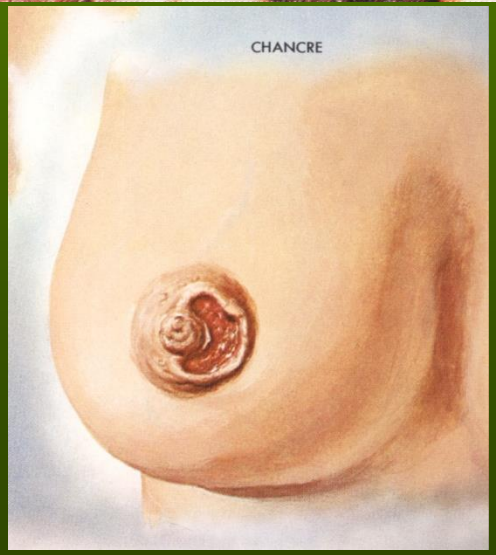
SYPHILIS, LUES

Treponema pallidum **invasion through <u>undamaged mucosa</u> and <u>damaged epidermis</u>**

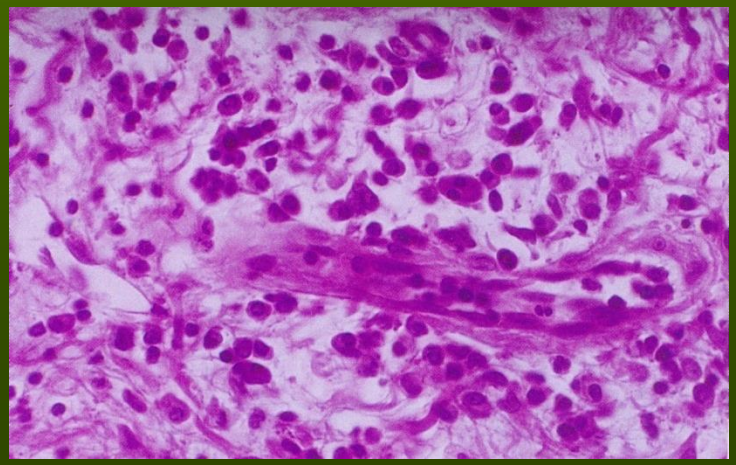


TREPONEMA PALLIDUM

PRIMARY LUES (PRIMARIA)

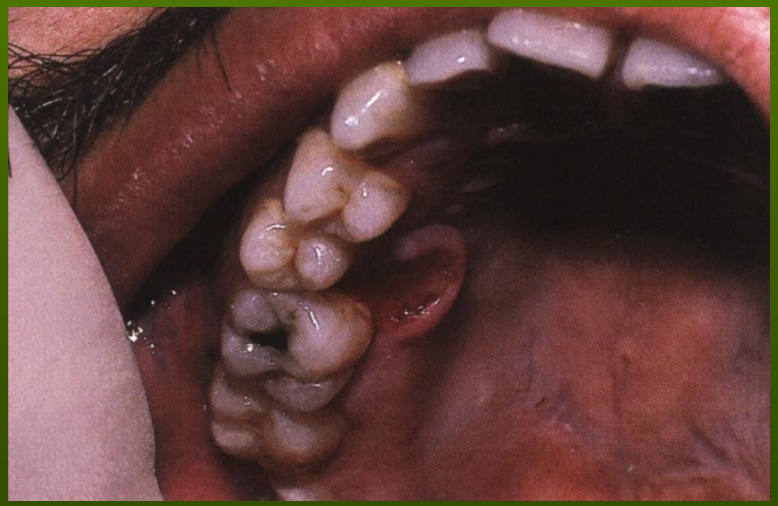


DIFFERENT LOCALISATIONS OF HARD CHANCRE (SCLEROSIS INITIALIS, PRIMARIA)



MICROSCOPIC PICTURE OF SCLEROSIS INITIALIS / PRIMARIA

PRIMARY LUES



DIFFERENT LOCALISATIONS OF *SCLEROSIS INITIALIS, PRIMARIA*

Primary syphilis. The epidermis is ulcerated, and the underlying tissue is infiltrated by predominantly plasma cells, macrophages, and lymphocytes

CLINICAL SYMPTOMS

- **Secondary lesions occur on face and trunk; are maculopapular and resemble drug eruption, lichen planus and psoriasis**
- **May present as moth-eaten alopecia on scalp, mucous patches on tongue**
- **Diagnose by serology**
- **Scaly, flesh-colored to erythematous papules or annular plaques**
- **Copper macules on palms and soles**

SECONDARY LUES

SPOTTED RASH – *EXANTHEMA MACULOSA*

NODULAR RASH – *EXANTHEMA PAPULOSA*

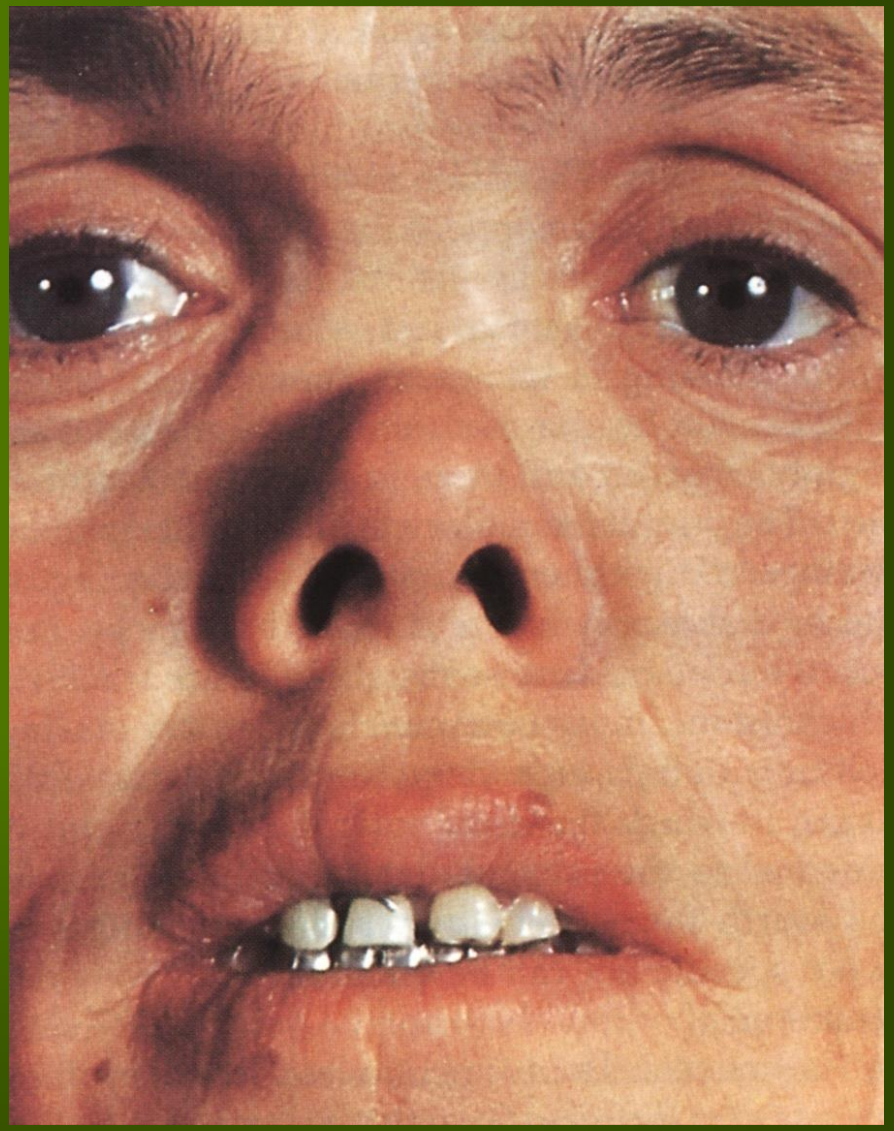
SECONDARY LUES

NODULAR RASH OF ORAL CAVITY (*ENANTHEMA*)

FLAT CONDYLOMA Condyloma latum: white lesions due to secondary syphilis (*CONDYLOMATA LATA)*

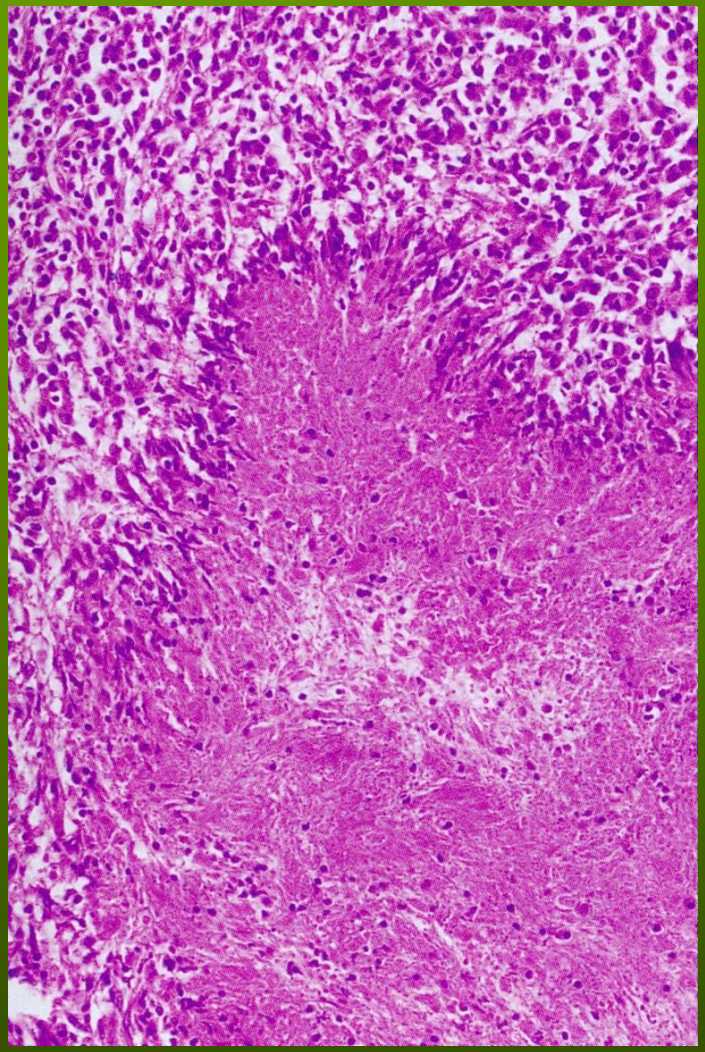
TERTIARY LUES

GUMMATA

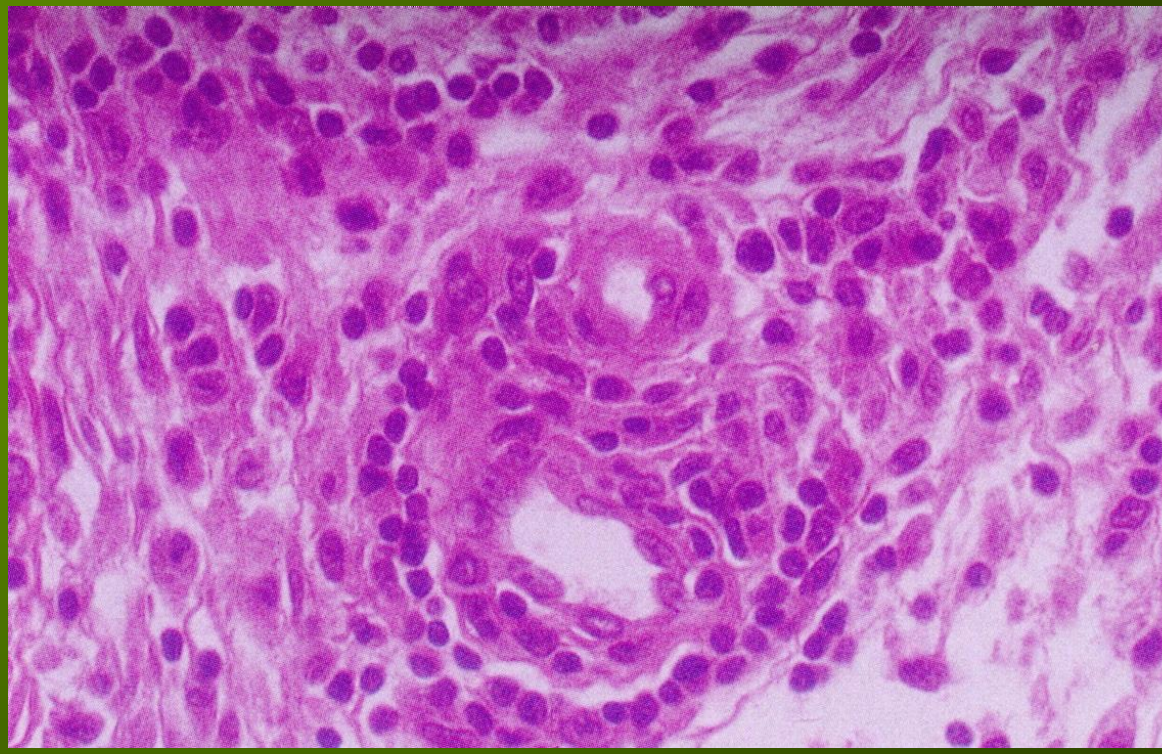


SADDLE NOSE AFTER DESTRUCTION OF THE SEPTUM BY GUMMA

TERTIARY LUES



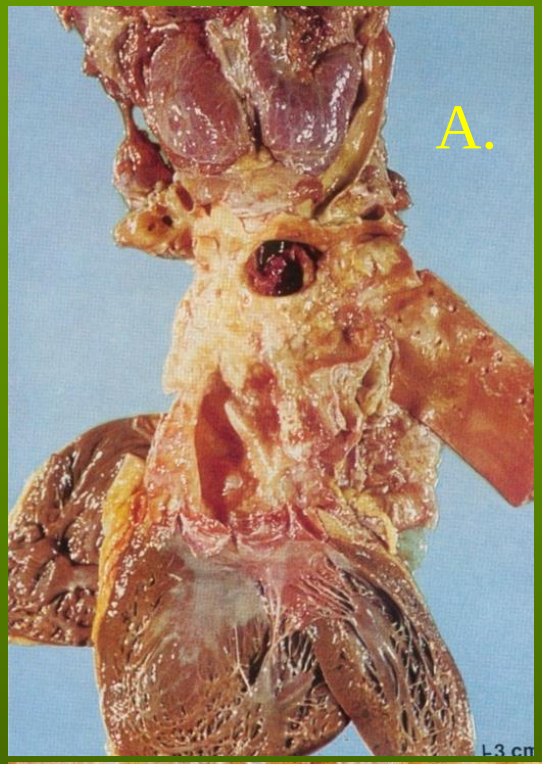
GUMMA. GRANULATION WITH NECROSIS WITH BLOOD VESSELS AND INFILTRATIONS FROM PLASMA CELLS

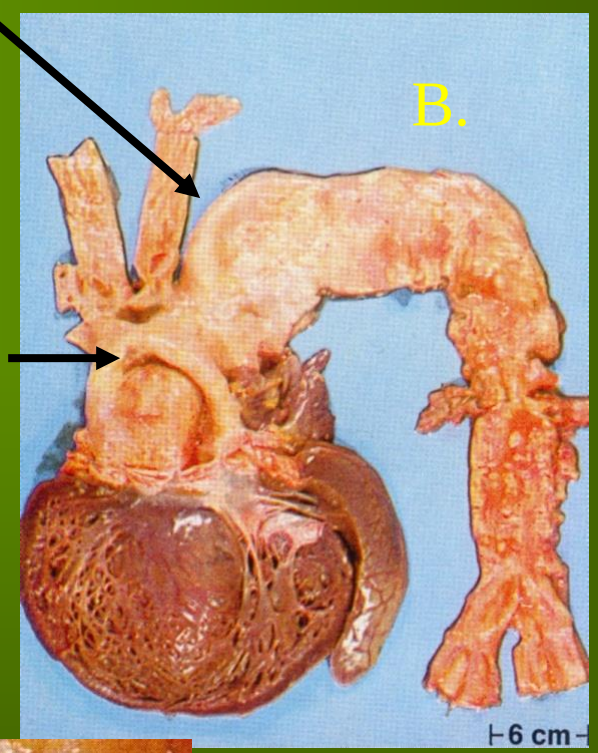


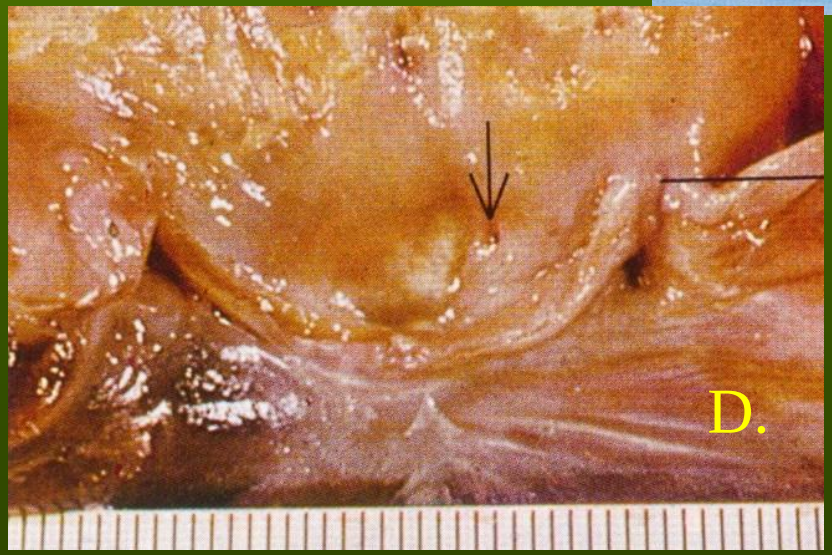
CUFF-LIKE INFILTRATION FROM PLASMA CELLS AROUND VESSELS

(ENDARTERITIS PROLIFERANS)

INFLAMMATION OF AORTIC MEDIA - LUETIC MESAORTITIS







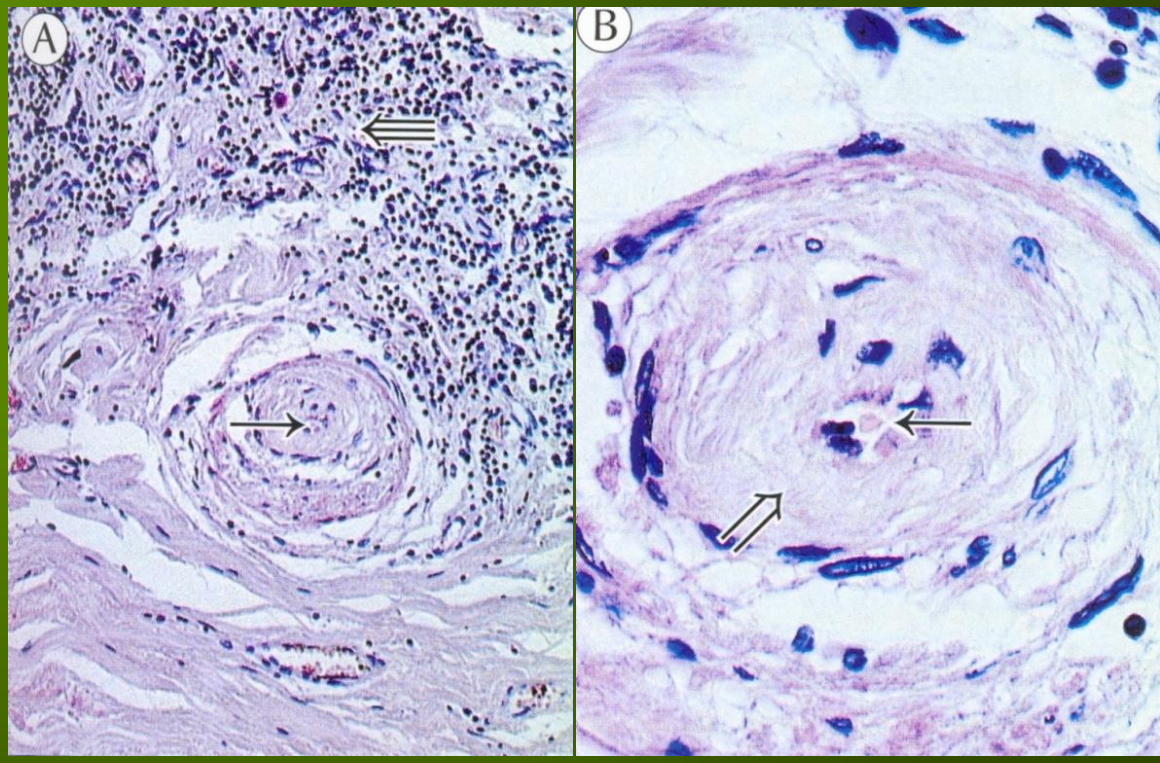
A-B. AFFECTED PART OF AORTA, SACCULATED ANEURYSMS (ARROWS)

C. CHARACTERISTIC PICTURE OF AORTIC WALL RESEMBLING SKIN OF A SNAKE

D. LESIONS AT THE AORTIC VALVES, RARELY CONSTRICTING THE OSTIUM OF CORONARY ARTERIES

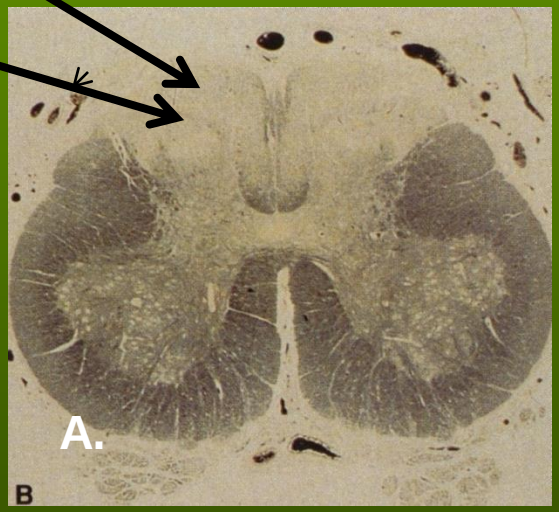
LUETIC MESAORTITIS

AORTIC MEDIA – DAMAGED ELASTIC FIBERS



VASA VASORUM IN THE WALL OF THE AORTA WITH THICKENING OF THE WALLS AND INFILTRATIONS FROM SURROUNDING PLASMA CELLS

LATE SYPHILIS – METALUES



NEUROSYPHILIS

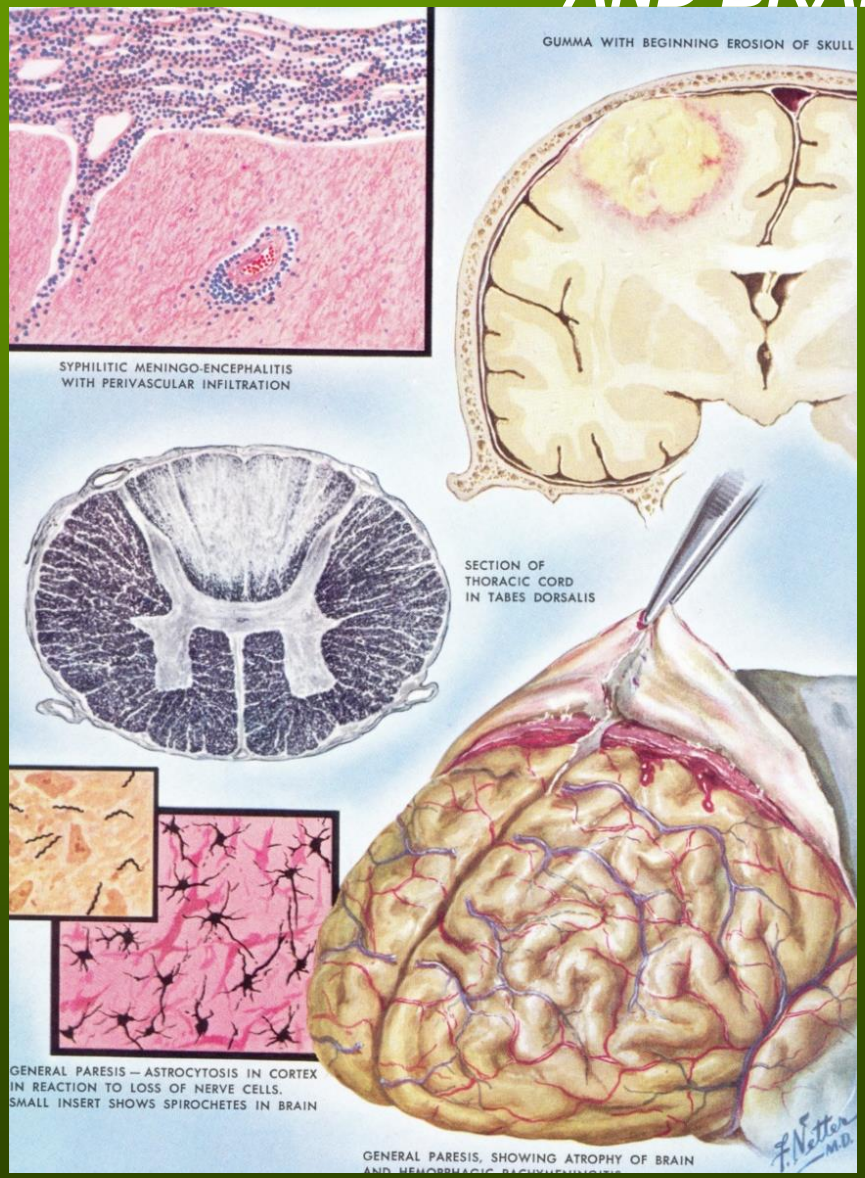
TABES DORSALIS - *TABES DORSALIS*

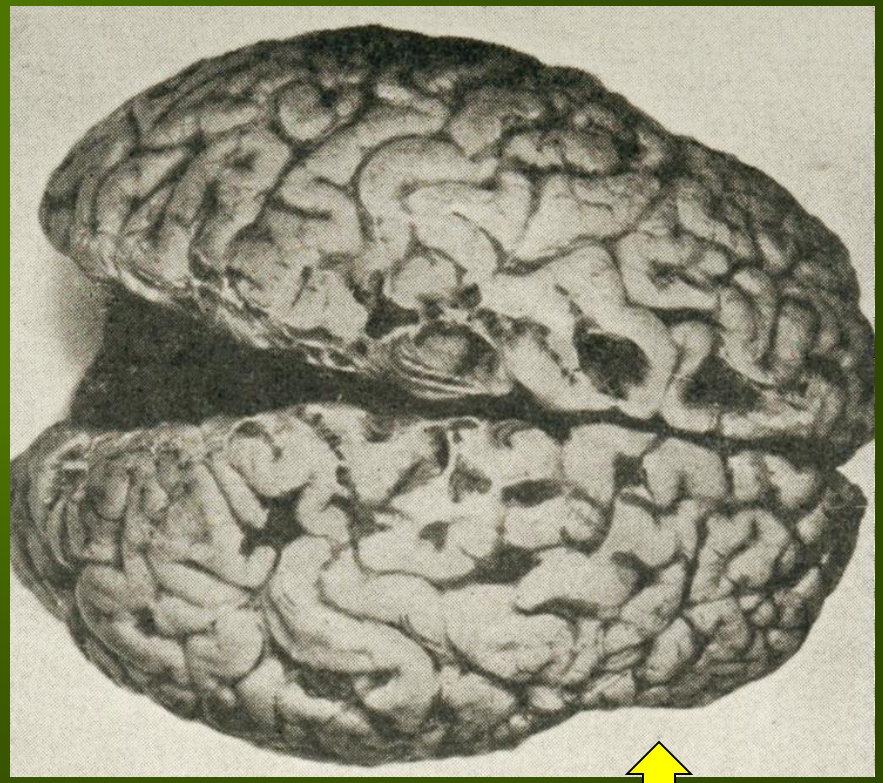
A.B. DEMYELINATION OF DORSAL MEDULLARY BUNDLES
C. DEFORMATION OF JOINTS DUE TO MICROTRAUMAS

TREPONEMA PALLIDUM **CANNOT BE DETECTED IN BODY FLUIDS AND TISSUES. DEMYELINATION OF DORSAL MEDULLARY BUNDLES (*FASCICULUS CUNEATUS ET GRACILIS*) AS WELL AS DISTURBANCES IN DEEP SENSIBILITY (BATHYESTHESIA)**

LATE SYPHILIS – METALUES

PROGRESSIVE PARALYSIS - *PARALYSIS PROGRESSIVA AND BRAIN ATROPHY*



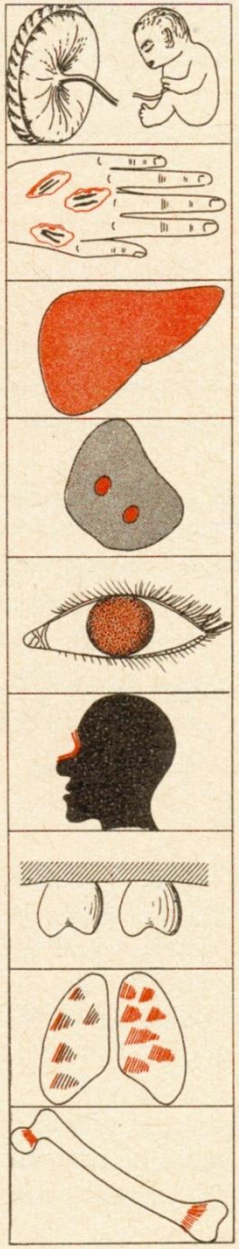


BRAIN ATROPHY

SYPHILIS IN CENTRAL NERVOUS SYSTEM

CONGENITAL SYPHILIS – LUES CONGENITA

Ryc. 85. Obraz kiły wrodzonej.



a — SYPHILITIC PLACENTA, USUALLY A STILLBIRTH

b — b — SCALING OF THE SKIN

c — c — BRIMSTONE HEPATITIS

d — d — ABSCESSES IN THE THYMUS

e — PARENCHYMATOUS INFLAMMATION OF CORNEA

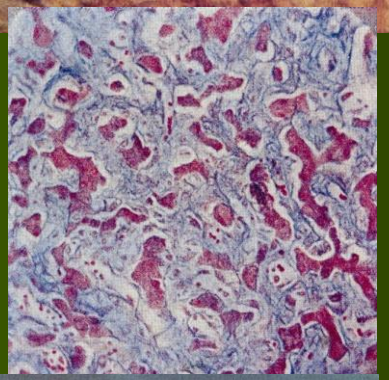
f — f — SADDLE NOSE

g — INSCISORS BARREL-SHAPED (SEEN IN FIRST YEAR OF LIFE) (PEG TEETH)

e—g — HUTCHINSON TRIAD

h — h — b „WHITE" LUNG

i — SYPHILITIC CARTILAGE-BONE INFLAMMATION



THANK YOU