IMPORTANT!!!

DO HOMEWORK ONLY IN WORD FILE AND ATTACH IT TO MY EMAIL svetlanataneva@abv.bg DO NOT SEND HOMEWORK BY WETRANSFER, GOOGLE DOCUMENTS, ETC. THE NAME OF THE FILE SHOULD CONTAIN YOUR NAME, FACULTY (MF/FDM), GROUP, WEEK NUMBER (8). HOMEWORK CANNOT BE CHECKED AS A PHOTO!FORWARD TO YOUR COLLEAGUES.

TASK: SUMMARIZE THE THIRD PART OF THE PRESENTATION (250-300 WORDS). PAY ATTENTION TO TERMINOLOGY.

- **2.3. FUNGAL ORIGIN - CANDIDIASIS AND OTHER MYCOSES (HISTOPLASMOSIS, ASPERGILLOSIS). THEY ARE ASSOCIATED WITH VARIOUS TYPES OF CLINICAL MANIFESTATIONS AND INCLUDE: PSEUDOMEMBRANOUS FORM (KNOWN AS NEONATAL THRUSH IN INFANTS), ERYTHEMATOUS, PLAQUE-LIKE AND NODULAR FORMS.**

- **CANDIDIASIS: VARIOUS TYPES OF CANDIDA ARE ISOLATED FROM THE MOUTH OF A PERSON, INCLUDING *CANDIDA ALBICANS* (70-80%), WITH THE PROPORTION OF CANDIDA ALBICANS IN THE TOTAL ORAL YEAST POPULATION CAN BE ONLY 50%. (WRIGHT ET AL), *CANDIDA GLABRATA* (10-15%),*CANDIDA KRUSEI* (10-15%), *CANDIDA TROPICALIS* (CANNON ET AL).**

- **CANDIDA SPP. IS THE MOST COMMON TYPE. IT IS A NORMAL INHABITANT OF THE ORAL CAVITY IN HEALTHY SUBJECTS WHEN THERE IS A BALANCE BETWEEN LOCAL DEFENSE MECHANISMS, RESIDENT FLORA AND PATHOGENICITY OF CANDIDA.**

- **IN CASE OF A CHANGE IN THE CONDITIONS OF A NORMAL INHABITANT, CANDIDA ALBICANS PASSES INTO AN OPPORTUNISTIC PATHOGEN.**

- **CARRIAGE OF CANDIDA ALBICANS IN HEALTHY ADULTS RANGES FROM 3 TO 48% (SCULLY ET AL), AND THIS DIFFERENCE IS USUALLY DUE TO DIFFERENCES IN THE POPULATIONS STUDIED AND METHODS USED.**

- THE MOST COMMON FUNGAL INFECTION OF ORAL MUCOSA IS CAUSED BY CANDIDA ALBICANS. PROTEINASE - POSITIVE CANDIDA ALBICANS STRAINS MOST INDUCE DISEASE AND INVADE KERATINIZED GINGIVAL EPITHELIUM.(SCULLY ET AL; NEGI ET AL;ODDS ET AL).

- THIS INVASION AND SUBSEQUENT INCREASED DESQUAMATION ARE DUE TO THE PRODUCTION OF HYALURONIDASE ENZYME.

- **THE OCCURRENCE OF ORAL CANDIDIASIS CAN BE DUE TO AN UNSUCCESSFUL TREATMENT OF A VIRAL INFECTION IN HIV PATIENTS, TREATED CONTINUOUSLY WITH ANTI-VIRAL DRUGS(MIZIARA & WEBER).**

- **PREDISPOSING FACTORS ARE OFTEN DIFFICULT TO IDENTIFY. BASED ON THEIR ORIGIN, INFECTIONS ARE DEFINED AS LOCAL OR SYSTEMIC.**

- **CANDIDA INFECTION OF THE ORAL MUCOSA IS USUALLY A LOCAL INFECTION. SYSTEMIC INFECTIONS ARE MORE COMMON IN PATIENTS WITH SYSTEMIC DISEASES, SMOKERS AND IMMUNOSUPPRESSED INDIVIDUALS.**

- **ORAL CANDIDIASIS IS RARELY OBSERVED IN HEALTHY SUBJECTS. CANDIDA ALBICANS IS KNOWN TO BE ISOLATED FROM THE PERIODONTAL POCKETS OF PATIENTS WITH SEVERE PERIODONTITIS. (WINKLER ET AL). THE MOST COMMON CLINICAL FEATURE OF CANDIDA INFECTION IS REDDENING OF THE ATTACHED GINGIVA, ACCOMPANIED BY A GRANULAR SURFACE.**

MOST COMMON CLINICAL FORMS OBSERVED ON THE ORAL MUCOSA ARE DIVIDED INTO:

ACUTE:

- **PSEUDOMEMBRANOUS CANDIDIASIS (OR THRUSH IN NEWBORNS)**
- **ERYTHEMATOUS CANDIDIASIS (HOLMSTRUP & AXÉLL)** AND

CHRONIC:

- **PROSTHETIC CANDIDIASIS STOMATITIS;**
- **SUCCULENT CANDIDA - HYPERPLASTIC CANDIDIASIS LEUKOPLAKIA;**
- **NODULAR CANDIDIASIS;**
- **ANGULAR CHEILITIS;**

- **PSEUDOMEMBRANOUS FORM IS CHARACTERIZED BY WHITISH PLAQUES THAT CAN BE SCRAPED OFF WITH A TOOL OR GAUZE UNDER WHICH SLIGHTLY BLEEDING SURFACES ARE REVEALED.**

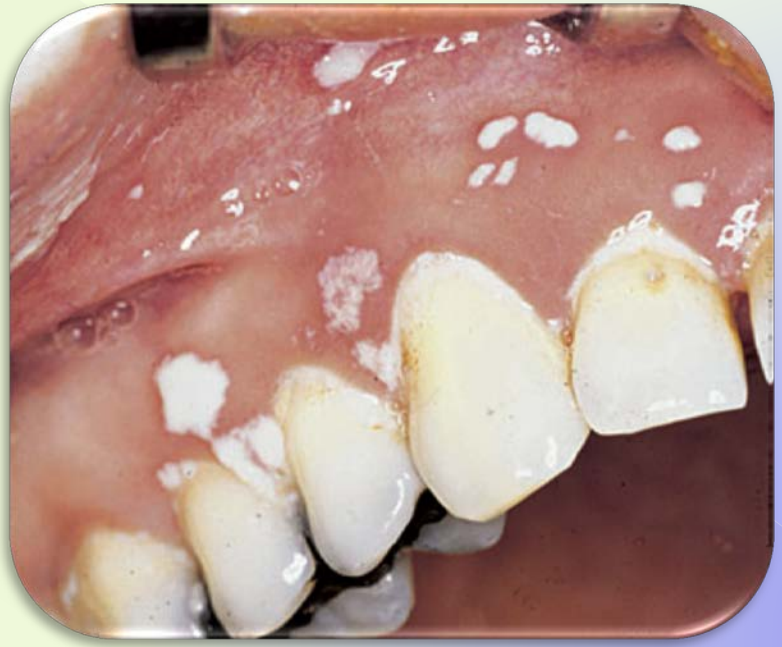
- **PSEUDOMEMBRANOUS FORM IS SYMPTOM-FREE AND MOST COMMONLY OCCURS IN PATIENTS WITH LEUKEMIA AS A COMPLICATION AFTER CHEMO- AND RADIOTHERAPY, XEROSTOMIA AND IMMUNOSUPPRESSED INDIVIDUALS.**

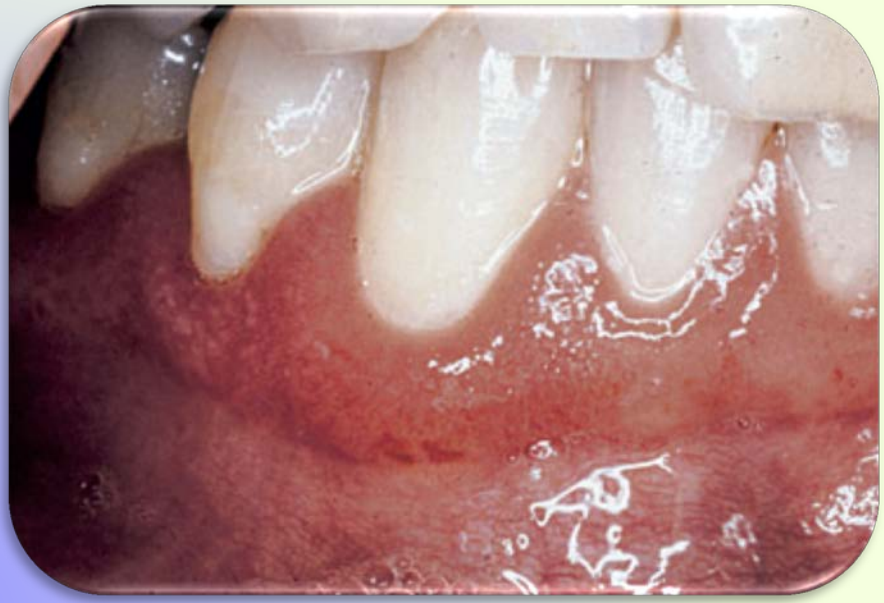
- **ERYTHEMATOUS ACUTE FORM MAY OCCUR ANYWHERE ON THE ORAL MUCOSA BUT MOST OFTEN ON THE TONGUE AND PALATE. INTENSELY RED LESIONS ARE TYPICAL, USUALLY ASSOCIATED WITH PAIN THAT MAY BE SEVERE. MORE OFTEN THE COMPLAINTS ARE FROM BURNING SENSATION.**

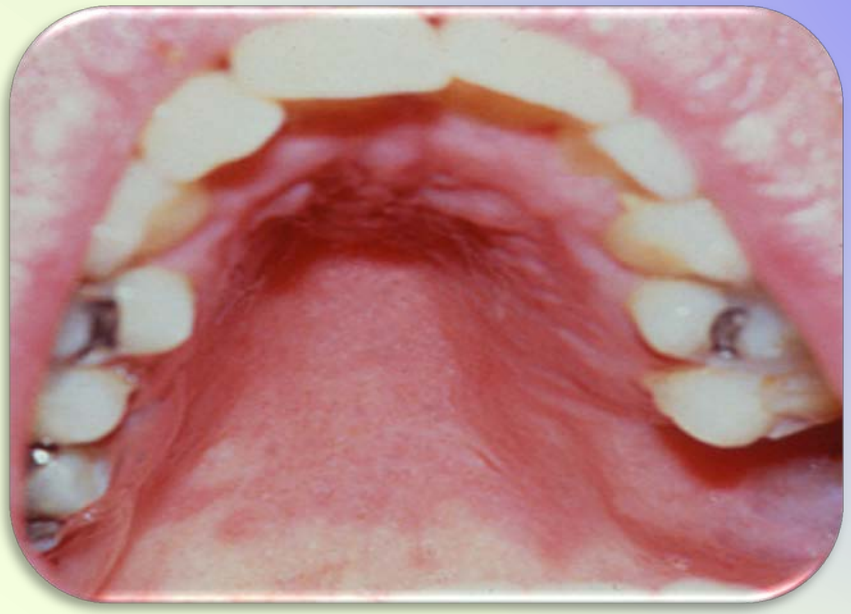
- **PLAQUE-LIKE CANDIDIASIS IS CHARACTERIZED BY WHITISH PLAQUES THAT CANNOT BE REMOVED. IT IS COMMONLY ASYMPTOMATIC AND THE LESION IS CLINICALLY INDISTINGUISHABLE FROM LEUKOPLAKIA.**

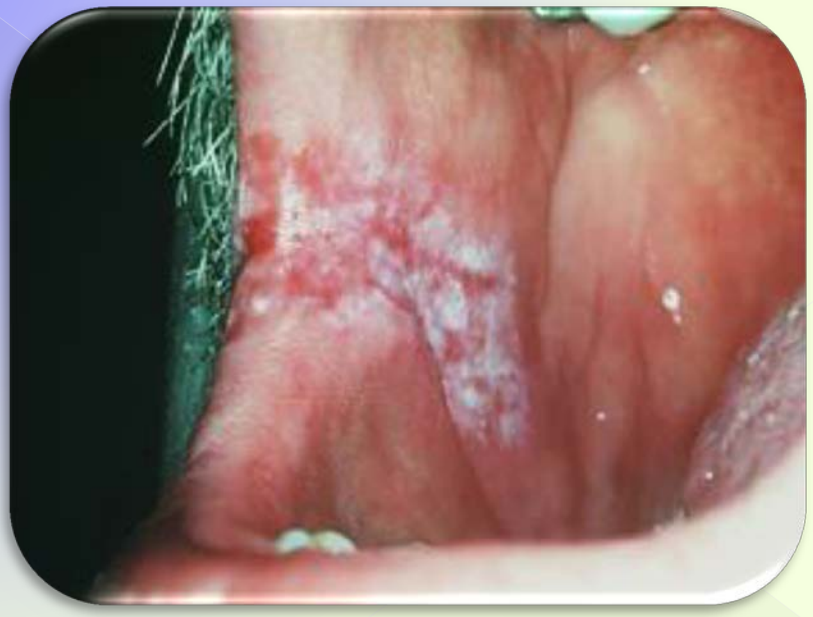
- **NODULAR CANDIDIASIS IS RARE IN GINGIVA. IT IS CHARACTERIZED BY SLIGHTLY RAISED NODULES OF WHITE OR REDDISH COLOUR. (HOLMSTRUP & AXÉLL).**

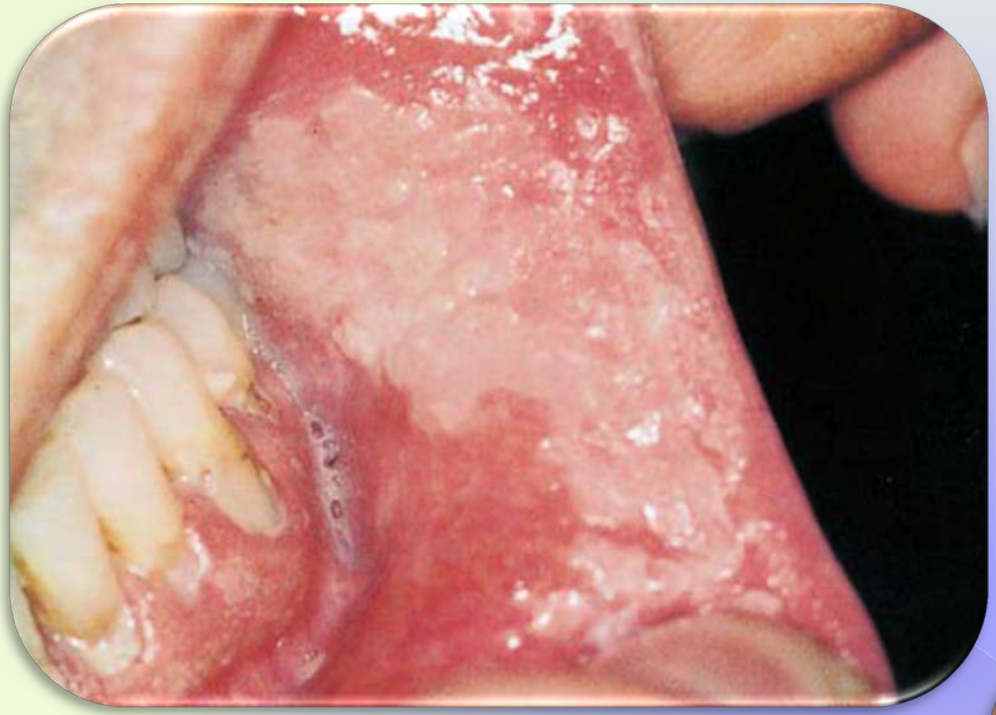
- **THE DIAGNOSIS OF CANDIDIASIS CAN BE MADE ON THE BASIS OF CULTURE, SMEAR AND BIOPSY.**

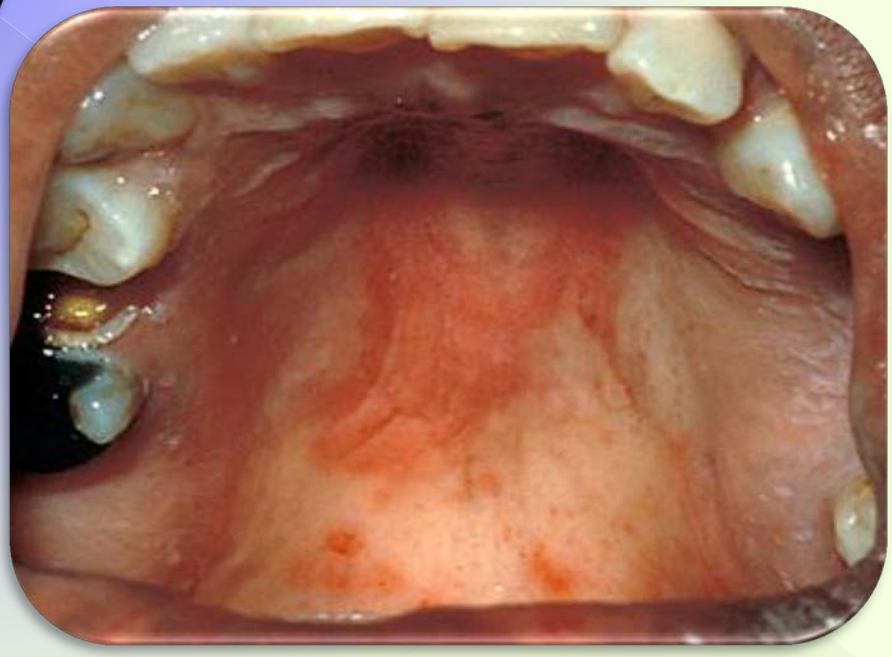












- MICROSCOPIC EXAMINATION OF SPOTS OF SUSPECTED LESIONS IS ANOTHER EASY DIAGNOSTIC PROCEDURE OR DIRECT EXAMINATION BY PHASE-CONTRAST AND LIGHT MICROSCOPY OF SCHIFF OR GRAM- SMEARS. A LARGE NUMBER OF HYPHAE OR SPORES ARE SEEN AMONG MANY DESQUAMATED CELLS.

- MICELLE-FORMING CELLS IN THE FORM OF HYPHAE OR PSEUDO- MICELLES ARE INVASIVE. BLASTOSPORE FORMATION IS A DISTINCTIVE SIGN OF OTHER YEAST TYPES.

- **CANDIDA TREATMENT INVOLVES TOPICAL THERAPY MAINLY IN THE ERYTHEMATOUS FORM - USE OF POLYENES SUCH AS:**
- ✓ **NYSTATIN - CAN ALSO BE USED AS AN ORAL SUSPENSION SINCE IT IS NOT ABSORBED AND IS A GOOD CHOICE IN PREGNANT OR BREASTFEEDING WOMEN,**
- ✓ **MYCONASOL (DACTARIN-GEL) - SHOULD NOT BE USED DURING PREGNANCY, MAY INTERACT WITH ANTICOAGULANTS AND PHENYTOIN,**
- ✓ **CLOTRIMAZOL- 1% CREAM, KETOCONAZOL -2% CREAM.**

TREATMENT OF SEVERE OR GENERALIZED FORMS OF ORAL CANDIDIASIS INVOLVES SYSTEMS OF ANTIFUNGAL AGENTS - THIAZOLE DERIVATIVES:

- ✓ **FLUONAZOLE (DIFLUCAN)- 50-150 MG / DAILY FOR 7 - 14 DAYS;**
- ✓ **INTRACONAZOLE (URUNGEL)- 2X100 MG/ DAILY FOR 7 - 14 DAYS;**
- ✓ **POSACONASOL (NOXAFIL)-7-14 ДНИ.**

- **LINEAR GINGIVAL ERYTHEMA - LGE - IT IS CONSIDERED TO BE AN IMMUNOSUPPRESSION AND IS MANIFESTED BY LINEAR ERYTHEMATOSUS LIMITED ONLY ON FREE GINGIVA (CONSENSUS REPORT, 1999).**

- **CHARACTERIZED BY A VISIBLE DISPROPORTION BETWEEN INFLAMMATION IN THE GINGIVA AND THE AMOUNT OF PLAQUE PRESENT, NO POCKETS OR LOSS OF ATTACHMAN AVAILABLE.**

- **ANOTHER FEATURE OF THIS TYPE OF GINGIVAL LESION IS THAT IT DOES NOT RESPOND WHEN IMPROVING ORAL HYGIENE OR AFTER UNDERGOING MECHANICAL THERAPY (EK CLEARING HOUSE ON ORAL PROBLEMS).**

- **PROPER DIAGNOSIS HAS BEEN ESTABLISHED WHEN THE LESION CONTINUES TO PERSIST AFTER REMOVING THE EXISTING PLAQUE AFTER THE PATIENT'S FIRST**

- THERE IS EVIDENCE THAT THE PREVALENCE OF LINEAR GINGIVAL ERYTHEMA, MEASURED BY THE NUMBER OF SITES AFFECTED, DEPENDS ON WHETHER THE PATIENT IS A SMOKER.(SWANGO ET AL). IF IT WAS PREVIOUSLY ASSUMED THAT AT LEAST 15% OF THE AFFECTED SITES SHOULD HAVE BLED ON PROBING AND 11% SHOULD HAVE HAD SPONTANEOUS BLEEDING (WINKLER ET AL), NOW A KEY CRITERION FOR THE PRESENCE OF LINEAR GINGIVAL ERYTHEMA IS CONSIDERED TO BE LACK OF BLEEDING ON PROBING (ROBINSON ET AL).

- ***C. ALBICANS*** **WAS ISOLATED IN ABOUT 50% OF GINGIVITIS SITES IN HIV-POSITIVE PATIENTS, IN 26% OF UNAFECTED BY GINGIVITIS SITES AGAIN IN HIV-POSITIVE AND IN 3% OF HEALTHY SITES IN HIV-NEGATIVE PATIENTS. FREQUENT ISOLATION AND PATHOGENIC ROLE OF C. ALBICANS MAY BE RELATED TO HIGH LEVELS OF YEASTS IN SALIVA AND ORAL MUCOSA OF HIV POSITIVE PATIENTS.(TYLENDA ET AL).**

- **HISTOPATHOLOGICAL EXAMINATION OF TAKEN FOR BIOPSY TISSUES FROM THE AREA OF LINEAR ERYTHEMA SHOWS NO INFLAMMATORY INFILTRATION, BUT ONLY AN INCREASED NUMBER OF BLOOD VESSELS, WHICH EXPLAINS THE RED COLOUR OF THE GINGIVAL LESION (GLICK ET AL).**

- **INCOMPLETE INFLAMMATORY RESPONSE IN THE TISSUE OF MACRO-ORGANISM CAN BE IN THE BASE OF**

- MANY DISEASES HAVE CLINICAL FEATURES SIMILAR TO THOSE OF LGE AND ARE NOT RESOLVED AFTER IMPROVING THE PATIENT'S ORAL HYGIENE AND APPLYING SUPRAGINGIVAL SCALING.

- EXAMPLES ARE OF ORAL LICHEN PLANUS, WHICH IS OFTEN ASSOCIATED WITH THE PRESENCE OF LINEAR ERYTHEMATOSUS, BUT OF THE ATTACHED GINGIVA.(HOLMSTRUP ET AL).

- LGE IS ALSO SOMETIMES PRESENT IN MEMBRANE MUCOSAL PEMPHIGOID (PINDBORG ET AL) OR IN VARIOUS ERYTHEMATOUS LESIONS, ASSOCIATED WITH RENAL FAILURE DUE TO THE PRESENCE OF AMMONIA IN SALIVA, RELATING TO HIGH LEVELS OF UREA.

- IN SUCH CASES THERE IS INSUFFICIENT INFORMATION ON THE WAY OF TREATMENT - ONLY BASED ON CONTROLLED STUDIES IN THIS TYPE OF CONDITION.

- CONVENTIONAL THERAPY PLUS RINSING WITH 0.12% CHLORHEXIDINE TWICE DAILY SHOWS SIGNIFICANT IMPROVEMENT IN THREE-MONTHS' PERIOD (GRASSI ET AL). IT WAS MENTIONED ABOVE THAT SOME CASES OF LGE COULD BE RELATED TO THE PRESENCE OF CANDIDA STRAINS;

- CLINICAL OBSERVATIONS INDICATE THAT THE IMPROVEMENT DEPENDS ON THE SUCCESSFUL ELIMINATION OF INTRA-ORAL CANDIDA STRAINS. THEREFORE, IT IS RECOMMENDED TO IDENTIFY THE PRESENCE OF FUNGAL INFECTION EITHER BY CULTURE OR SMEAR, FOLLOWED BY ANTIBIOTIC THERAPY IN CASE OF CANDIDIASIS.