

INFLUENCE OF CULTURE MEDIA COMPOSITION ON THE MORPHOLOGY AND GROWTH OF CANDIDA ALBICANS

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Fungi of the genus *Candida*, as causative agents of nosocomial infections in the last 10-15 years took 4-th place in the United States and Russia and 5-th place in Europe. *C. albicans* is a typical member of the yeasts that live in the small intestines, genital tract, mouth, esophagus, larynx. Under certain conditions it is possible the rapid multiplication of the pathogen and the development of infection called candidiasis. Candidiasis often occurs in people with weakened immune systems - both men and women, newborns can become infected with *C. albicans* by sick mother during childbirth. According to the WHO incidence for different types of fungal infections has increased more than two times and tends to further increase.

For the detection of *C. albicans* direct microscopy and culture of pathological material for nutrient media are used. For this purpose Sabouraud agar and Sabouraud broth are used. On solid nutrient media *C. albicans* grows as smooth cheesy colonies, wet or matt with gray, with yellow or pink pigment on the surface. In liquid media they can form a pellicle or a homogeneous precipitate, which is sometimes consists of pellicles layers. The consistency of the pellicle can be different: grain-like, dry, mucoid. It is known that this species is characterized by filamentous-yeast dimorphism - the ability to form hyphal or yeast-like growth.

Sabouraud agar and Sabouraud broth, unenriched and enriched with 10% serum of cattle were used for studying the culture media composition effect on cultural and morphological characteristics of *C. albicans*. Cultures were incubated at 37 ° C for 7 days. For microscopic examination of the cultures grown native preparations (crushed drop) and stained preparations (smear preparations stained with a solution of methylene blue and Romanovsky-Giemsa solution).

After 24 h of growth on solid nutrient media the colonies of yeasts consisting of oval budding cells was observed. On liquid nutrient media the turbidity and precipitation in the broth were observed. After 48 hours and 7 days, no change of culture morphology was observed. In microscopic preparations from 7-day-old cultures the yeast cells and elements of hyphal growth were seen.

The results of these studies confirm the importance of yeasts *C. albicans* as a model object in medicine and biotechnology, for studying of the influence of culture media, the development of new culture media for a more effective of candidiasis diagnostics.