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Study of the growth of *Malassezia furfur* on mycological culture media supplemented with different lipid sources

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Malassezia furfur, causative agent of certain skin conditions, such as pityriasis versicolor, dandruff and seborrheic dermatitis is a lipophilic yeast. Though it is a clinically important etiological agent, insufficient interest of the *in vitro* researches can be noticed due to lack of convenient culture media to isolate and subculture the organism. The aim of this study was to evaluate the growth of *M. furfur* on conventional, mycological culture media supplemented with eight different lipid sources. Two basal media, Sabouraud Dextrose Agar (SDA) and Potato Dextrose Agar (PDA) were separately supplemented with butter, ghee, margarine, milk powder, virgin coconut oil, castor oil, olive oil and sesame oil to the amount of 1% w/v. Chloramphenicol was added to all the prepared culture media to avoid bacterial contamination. *M. furfur* was inoculated on the supplemented media and on the two basal media using sterile microbiological cotton swabs. Inoculated agar plates were incubated at 32°C for 7 days. Triplicated sets of plates were used for inoculation. After the incubation, several parameters such as presence of growth, extent of growth, colony morphology and microscopic view of the yeast cells were recorded. The growth was confirmed as *M. furfur* by the typical “spaghetti- meatballs” shape of the microscopic view after staining with crystal violet. No growth was observed in both PDA and SDA basal media. Luxuriant growth of the yeast was observed on SDA and PDA supplemented with ghee or butter. Relatively good growth was recorded in the SDA plate supplemented with margarine while a poor growth was on PDA supplemented with margarine. The growth on olive oil added SDA was poor while no growth was observed on olive oil added PDA. Growth on milk powder added PDA was higher than that of SDA. Virgin coconut oil added Agar plates exhibited no growth and all the PDA and SDA plates supplemented with castor oil, sesame oil failed to give any growth. Therefore, the study concludes that supplementation both SDA and PDA with ghee or butter is a reliable approach for clinical isolation and sub culturing of *M. furfur*.

Keywords: *Malassezia furfur*, isolation, lipophilic yeast, pityriasis versicolor