

LETTER TO THE EDITOR

ANALOGIES IN MEDICINE: SPAGHETTI AND MEATBALLS

Belo Horizonte, December 27, 2012

Dear Sir

Spaghetti and meatballs. Spaghetti is a long, thin, cylindrical pasta of Italian origin. Spaghetti is made of semolina or flour and water. Italian dried spaghetti is made from durum wheat semolina, but outside of Italy it may be made with other kinds of flour. Traditionally, most spaghetti strings are 50 cm (20 in) long, but shorter lengths gained in popularity during the later half of the 20th century and now spaghetti is most commonly available in 25-30 cm (10-12 in) lengths. A variety of pasta dishes are based on it, from spaghetti alla Carbonara or garlic and oil to a spaghetti with tomato sauce, meat and other sauces. *Spaghetti* is the plural form of the Italian word *spaghetto*, which is a diminutive of *spago*, meaning “thin string” or “twine”.

A meatball (Port. almôndega) is made from an amount of ground meat rolled into a small ball, sometimes along with other ingredients, such as breadcrumbs, minced onion, spices, and possibly eggs. Meatballs are usually prepared and rolled by hand, and are cooked by frying, baking, steaming, or braising in sauce. There are many kinds of meatball recipes using different types of meats and spices, including vegetarian and fish alternatives, and various methods of preparation.

Pityriasis (Tinea) versicolor was first recognized as a fungal infection on the skin in 1846 by Eichstedt. For several years the disease was considered to be dermatophyte in origin, but Baillon, impressed by the yeastlike nature of the organism, coined the name *Malassezia furfur* in 1889 to distinguish this organism from *Microsporum* species of dermatophytes (*Malassez*, Louis Charles, French physiologist, 1842-1909). In 1951 Gordon isolated, characterized, and authenticated the organism *Malassezia furfur* and renamed it *Pityrosporum orbiculare*. It is now recognized and accepted that *M. furfur* is the correct name and *P. orbiculare*, *P. ovale*, and *M. ovals* are synonymous³.

Pityriasis versicolor is a common skin complaint in which flaky discolored patches appear mainly on the chest and back. The term ‘pityriasis’ is used to describe skin conditions in which the scale appears similar to bran. The multiple colors arising in the disorder give rise to the second part of the name, ‘versicolor’. It affects the trunk, neck, and/or arms, and is uncommon on other parts of the body. The patches may be pink, coppery brown or paler than surrounding skin. They may be mildly itchy. Pale patches may be more common in darker skin; this appearance is known as pityriasis versicolor alba and is less likely to itch. Sometimes the patches start scaly and brown, and then resolve through a non-scaly and white stage.

Pityriasis versicolor is more common in hot, humid climates or in those who sweat heavily, so it may recur each summer. Pityriasis

versicolor does not appear to predispose affected areas to sunburn even when it causes pale white marks. The pale type of pityriasis versicolor is thought to be due to a chemical produced by *Malassezia (Pityrosporum)* that diffuses down and impairs the function of the pigment cells in the underlying skin. Often the lesions are asymptomatic and patients become aware of the lesions because affected areas do not tan.

Diagnosis of pityriasis versicolor is made clinically and confirmed by direct microscopic examination of scale prepared with 10% potassium hydroxide solution. The presence of both grapelike clusters of yeasts and short, septate branching pseudohyphal fragments are seen. Skin biopsy and culture are not generally required to confirm diagnosis³.

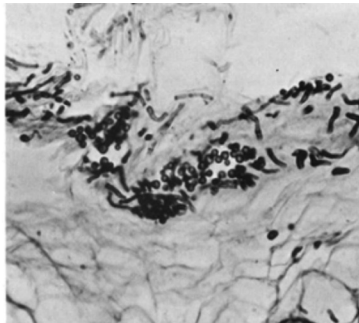


Fig.1 - The causative organism of tinea versicolor (*Malassezia furfur*) is seen in the stratum corneum as multiple spores and relatively short, wavy hyphae. PAS, X633, AFIP.

In skin biopsy the horny layer in lesions of pityriasis versicolor contains abundant amount of fungal elements, which can be visualized in sections stained with hematoxylin-eosin as faintly basophilic structures. *Malassezia (Pityrosporum)* is present as a combination of both short pseudohyphae and spores, the light microscopic appearance of which is referred to as “spaghetti and meatballs” pattern²⁻⁵ (Port. espaguete e almôndegas. Esp. albóndigas y espagueti) or frankfurters and beans (Port. salsichas alemãs e feijões)¹⁻⁴. The spaghetti represents broken pseudohyphae and the meatballs are the spores of *Malassezia furfur* (Fig.1).

The inflammatory response in pityriasis versicolor is usually minimal, although there may be slight hyperkeratosis, slight spongiosis, or a minimal superficial perivascular lymphocytic infiltration². In Brazil we like spaghetti very much, with or without meatballs.

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