

**228** Antifungal activity of natural extracts from Northeastern Portuguese flowers against *Candida* biofilms

157

In healthy individuals, many species of *Candida* are endogenous commensals of the gastrointestinal and urogenital tracts [1]. However, the prevalence of opportunistic fungal infections (candidosis) has been increasing dramatically over the recent decades and this is particularly evident in immunocompromised individuals [2]. The importance of candidosis is the potential synergistic effect on virulence and subsequent difficulties encountered in treatment. Moreover, a major virulence factor of *Candida* is its ability to adapt to a variety of different habitats and the consequent formation of surface attached microbial communities known as biofilms [3-4]. The resistance of *Candida* biofilms to antifungal agents was first demonstrated by Hawser et al., 1995 [5]. Although most episodes of candidosis are attributed to *C. albicans*, nowadays non-*Candida albicans* *Candida* (NCAC), such as *C. glabrata*, *C. tropicalis* and *C. parapsilosis* have emerged as important pathogens [6-7] and tend to be inherently less susceptible to commonly used antifungal agents [8-9]. So, in the last years the interest in natural compounds has increased, specifically some phenolic extracts which have been known in folk medicine as antimicrobial agents [10-11]. Thus, this work aimed to preform a screening of the antifungal potential of phenolic extracts from *Castanea sativa*, *Filipendula ulmaria* and *Rosa micrantha* flowers against *Candida* biofilms. The extracts were exhaustively characterized by HPLC-DAD-ESI/MS. Hydrolysable tannins were the main group of phenolic compounds in *C. sativa* and *F. ulmaria* samples, while flavonoids were the most abundant group in *R. micrantha* (6090 ± 253 mg/Kg). The minimal inhibitory concentration (MIC) was determined according to the guidelines in NCCLS document M27-A2 [12] with some modifications. All extracts revealed promising antifungal effect, with MIC values ranging from concentrations under 0.05 to 0.625 mg/ml. *R. micrantha* extract showed a strong effect (MIC ≤ 0.155mg/ml) against all strains tested and, it is also possible to assume that was against *C. glabrata* and *C. parapsilosis* that the phenolic extracts showed the highest activity (MIC

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