

## Detection of *Malassezia pachydermatis* Carriage by Using Polymerase chain reaction in Canine and Human Skin

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**Introduction:** *Malassezia pachydermatis* serve as both commensal microorganisms and pathogen on the skin of dogs. Rarely, cases of life threatening fungemia in people have been attributed to *M.*

*pachydermatis*. This study investigated the role of pet dogs as risk factors for mechanical carriage of *M. pachydermatis* on human hands.

**Material and methods:** Samples were collected by using tape strip and swabbing method from the skin of dogs and palm of the veterinarian and staff for cytology, microbiologic culture. Microbiological culture was performed on Sabouraud's dextrose agar plate for up to 72 hours at 37°C. DNA was extracted directly from the swab samples and amplified in a specific nested PCR.

**Results:** One hundred dogs were divided into 40 healthy dogs and 60 dogs with *Malassezia pachydermatis* overgrowth and their hospital relatives made up same groups. Of cytologic negative group, 60% of canine samples were positive for *M. pachydermatis* growth on lipid-enriched Sabouraud's dextrose agar, and 25% of human samples were positive. Of cytologic positive group, 90% of canine samples were positive for *M. pachydermatis* and from this group, 62.5% of the human samples were positive on culture. *Malassezia pachydermatis*-specific DNA was detected 80% of canine samples and 70% of human samples in the control group and approximately 97.5% of affected canine samples and 82.5% of human samples.

**Clinical relevance:** These results demonstrated that the use of nested PCR is an alternative to fungal culture for analysis of the distribution of cutaneous *Malassezia pachydermatis* due to high specificity for this organism and that human carriage of opportunistic pathogen such as *M. pachydermatis* underwent a good hand washing practice to avoid mechanical transfer to another.

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