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Classification of *Aspergillus fumigatus* related species in Japan and their antifungal susceptibilities

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Aspergillus fumigatus is usually reported as both the most common member of the section in soil worldwide and the most common cause of aspergillosis. Its related species, *A. lentulus*, *A. udagawae* and *A. viridinutans* have been also reported as causative agents of aspergillosis, and the numbers of cases are increasing. Their susceptibilities against antifungal drugs, especially azoles, are different from that of *A. fumigatus*. Therefore it is essential to identify their species correctly for the appropriate treatment.

Recently, *A. viridinutans* clade (including *A. udagawae*) was re-classified into *A. udagawae*, *A. acrensis*, *A. aureoles*, *A. wyomingensis*, *A. siamensis*, *A. felis*, *A. pseudoviridinutans*, *A. arcoverdensis*, *A. frankstonensis* and *A. viridinutans* s.s. (Hubka et al., 2018).

However, there has been no report to date as to the isolation of the related species from the environment in Japan.

The purpose of this study is to make a comparison between clinical isolates and environmental ones of the related species on susceptibilities against antifungal drugs and genetic diversity. First, we tried to isolate the related species from the environment in Japan by the baited method using corn and found some isolates belonging to *A. lentulus*, *A. udagawae*, *A. aureoles*, *A. wyomingensis*, *A. felis* and *A. pseudoviridinutans*. Then we examined their antifungal susceptibilities using the Dry Plate (Eiken Chemicals, Japan) according to the CLSI E38-E3 method. Some isolates of *A. lentulus* and *A. udagawae* have resistance properties against *VRCZ*, while some of *A. felis* and *A. pseudoviridinutans* showed resistance against both *VRCZ* and *ITCZ*. These resistances closely resembled those of clinical isolates in pattern, degree and frequency, therefore they are considered as inherent resistance.