Can genotyping discriminate between invasive and colonising *A. fumigatus* isolates?

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**INTRODUCTION AND PURPOSE**

Hypothetically, some *A. fumigatus* genotypes are found only in samples from patients with invasive aspergillosis, whereas others are restricted to colonised patients.

However, little is known about the association between the development of invasive aspergillosis and genotyping. We studied whether STRAf genotyping was able to discriminate between invasive and colonising genotypes after genotyping a large collection of *A. fumigatus* senso stricto isolates.

**RESULTS**

Of the 395 genotypes detected, 87% (n=345) were found in one patient each. The remaining 13% (n=50) were genotypes in cluster involving 40% of patients (n=95); the proportion of patients with invasive aspergillosis or colonisation and genotypes in cluster was 45% and 37%, respectively.

Genotypes in cluster formed 50 clusters involving two, three, or four patients each who were admitted to the hospital on different dates (Figure 1a). Only four of the clusters involved patients admitted at the same unit at the same time. Eighteen patients were involved in more than one cluster. Almost half of the patients yielded several genotypes (range 2 to 7).

Some clusters involved only patients with invasive aspergillosis or colonised patients, whereas others involved both patients with invasive aspergillosis and colonised patients (Figure 1b).

Of the 236 patients with invasive aspergillosis or colonised patients, 40% (n=95) were genotypes in cluster involving 40% of patients (n=95). The proportion of patients with invasive aspergillosis or colonisation and genotypes in cluster was 45% and 37%, respectively.

Genotypes in cluster formed 50 clusters involving two, three, or four patients each who were admitted to the hospital on different dates (Figure 1a). Only four of the clusters involved patients admitted at the same unit at the same time. Eighteen patients were involved in more than one cluster. Almost half of the patients yielded several genotypes (range 2 to 7).

Some clusters involved only patients with invasive aspergillosis or colonised patients, whereas others involved both patients with invasive aspergillosis and colonised patients (Figure 1b).

**CONCLUSIONS**

- Genotyping can not discriminate between invasive and colonising *A. fumigatus* isolates as half of the genotypes in cluster were found in both kinds of patients
- Future research on the study of the epidemic genotypes found exclusively in patients with aspergillosis or colonised are warranted.