ACCURACY OF THE YEAST IDENTIFICATION USING COMMERCIAL PRODUCTS SUCH AS API 20C AUX AND RAPID YEAST PLUS SYSTEM IS ENHANCED SIGNIFICANTLY BY THE CORNMEAL MORPHOLOGY

Mohan SK, UHN-Toronto Medical Laboratories & Mount Sinai Hospital, Toronto, Canada, Richardson SE, Hospital for Sick Children, Toronto, Canada, Campbell I, Mazzulli T, Low DE, UHN-Toronto Medical Laboratories & Mount Sinai Hospital, Toronto, Canada, Jamieson F, PHL Central Lab, Mycology MOH LTC, Toronto, Canada, Skulnick M, Wong K, UHN-Toronto Medical Laboratories & Mount Sinai Hospital, Toronto, Canada

We isolated 330 yeasts from clinical specimens and identified them to species level using two commercial kits, API 20C AUX and RapID Yeast Plus System. Identification was confirmed by the cornmeal morphology of the yeasts having species specific structures. Both kits identified yeast and Candida species (91.2%) very well, but when yeast isolates recovered from patients on antifungal treatment were tested they were difficult to identify by each system and overall ID rate decreased (83% for API 20C & 33.7% for RapID Yeast). In 301 cases, identifications produced by one or both kits (86 C. parasilosis, 71 C. tropicalis, 59 T. glabrata, 33 C. albicans, 23 C. krusei, 11 Cryptococcus neoformans, 6 C. lusitaniae and 12 others) agreed with those of the cornmeal morphology. Commercial products achieved no identification for 12 yeasts identified only by cornmeal morphology (confirmed by the reference laboratory), and identification of a further six disagreed with that of cornmeal. Eight isolates were unidentified by all methods, while six isolates were identified without cornmeal information and 19 isolates were sent to the reference laboratory for conventional identification methods. When a discrepant reaction was observed, the cornmeal morphology was extremely useful, particularly in producing species identification with confidence values greater than 90%. We concluded that regardless of which system we adopt to identify yeast isolated from clinical specimens, cornmeal morphology information is always desirable, and in some cases necessary, for producing useful information with high confidence value to the clinician.

Data for 89 Yeast Isolates Tested and Identified by API20C & RapID Yeast Plus System in Combination Agreed by Cornmeal Morphology

	BC	PD	WD	BX	URINE	CSF	FLD	EYE	CATH	BAL	ORAL/VAG	
API 20C	40	8	3	3	3	4	4	3	1	4	1	(83%)
RapID Yeast	15	3	2	3	0	1	3	2	0	0	1	(33.7%)

BC (blood culture), PD (peritoneal dialysate), WD (wound), BX (biopsy), CSF (cerebrospinal fluid), FLD (fluid), CATH (catheter), BAL (bronchial alveolar lavage), VAG (vaginal)