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INTERNATIONAL *BURKHOLDERIA CEPACIA* WORKING GROUP North American Cystic Fibrosis Conference October 26, 2001

Dr. LiPuma and Dr. Speert welcomed the group and individuals identified themselves and their affiliations.

Dr. LiPuma presented an update on the American *B. cepacia* Research Laboratory and Repository. To date, 6,622 isolates, 3,519 of which are clinical isolates from 1,502 CF patients, have been received. The remainder are from non-CF patients and from the environment. Isolates from 964 CF patients from 169 CF centers in 121 US cities have been characterized. Overall, there is a 5 to 8 percent rate of misidentification. Genotyping has been a particularly useful component of the laboratory, and there is an upcoming publication in the *Journal of Pediatrics* looking at genotyping to compare isolates from Philadelphia and Washington, D.C., describing spread in those two centers. In addition, genotyping has been used to evaluate the potential for strain replacement. One thousand fifty isolates from 347 patients have been examined to date, and 23 (6.5 %) patients have demonstrated a change in genomovar. In five, one genomovar III strain has been replaced by another; in four, a genomovar II strain has been replaced by another genomovar II strain; in two, a genomovar V strain has been replaced by a genomovar III strain; and in one each, a genomovar II, genomovar V and genomovar VI strain have been replaced by a genomovar III strain. In addition there were a number of patients who appeared to be co-infected with different strains. Overall, 38 percent of American isolates are genomovar II and 50 percent are genomovar III, with a breakdown of the latter at 25% IIIA and 75% IIIB.

Dr. Speert then presented data from the Canadian reference laboratory and repository. 905 *B. cepacia* complex isolates from 446 patients in 8 of the 10 Canadian provinces have been received by the laboratory. Eighty percent of these are genomovar III, mostly genomovar IIIA, and approximately 10% are genomovar II. Dr. Speert and Dr. LiPuma were both involved in the CF consensus conference on infection control.

Dr. Tom Coenye presented an update on taxonomy. Names have been given to two additional genomovars; genomovar VIII is *B. anthina* and genomovar IX is *B. pyrocinia*. In addition, there have been changes in *Pandorea*, with now five species named—including *P. apista*, *P. sputorum*, *P. pulmonicola*, *P. pnomenusa*, and *P. norimbergensis*—and four unnamed genomospecies. These organisms are frequently confused with *B. cepacia* complex isolates, are pan-resistant, can chronically colonize CF patients and can be spread from patient to patient. Several novel *Ralstonia* species have been described, as well, and this genus now contains 11 species. Species isolated from CF patients include *R. pickettii*, *R. mannitolilytica*, *R. gilardii* and *R. taiwanensis*.

Dr. Coenye also reported on a study of 51 previously unidentified CF isolates. Of these, 17 were Enterobacteriaceae, including 14 *Serratia marcescens*, which were identified by sequence data. Nine belonged to novel taxa within the α -Proteobacteria; seven of those were classified in the novel genus *Inquilinus* as *Inquilinus limosus* gen. nov., sp. Nov. Most of these isolates grew well on *B. cepacia* selective agar.

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Dr. Eshwar Mahenthiralingam presented data on the utility of *recA* in identification and taxonomy of *B. cepacia*. He described his approach using six sets of primers. Overall, these do a good job of species identification, with relatively good genomovar identification using specific primers. The genomovar I primers cross-react with *B. pyrocinia*, the genomovar II primers with genomovar VI, the genomovar IIIA primers are very good, and the genomovar IIIB primers show some false negatives. The genomovar IV, V, and VII primers are also quite specific. Additional help can be achieved by using specific PCR sequencing of the *recA* gene.

Dr. Mahenthiralingam also reported on the Sanger sequencing project. The goal currently is for 190,000 clones to provide 9 X coverage. Currently, 50,000 clones have been sequenced. There is a Blast server on the web site, but Dr. Mahenthiralingam is recommending waiting until the sequence is completed and annotated to provide the maximum information. Additional information was presented on the sequencing of strain LB 400, which is more closely related to *Burkholderia fungorum* than to *B. cepacia*.

Dr. Susanna McColley presented data on managed care and microbiology. She presented the results of a survey that was e-mailed to pediatric and adult center directors. Questions that were asked included the number of patients, the percent not allowed to have cultures performed at the center lab, the number of labs that samples were sent out to, whether they were requesting exemptions, whether the exemptions were approved, and whether there was verification of a CF specific protocol at the outside lab. One hundred sixteen centers responded, covering 16,081 patients. Fifty-four of these centers had no send-outs and one center sent all their specimens out. Across the board, approximately 5% of samples were sent out. For the most part, individuals reported that they did not request exemptions from the send-out policy, primarily because they used to try, unsuccessfully, and gave up. Those centers that were successful in having exemptions to the send-out policy reported that it was very time-intensive, requiring both phone and letter contacts with the insurance carrier. For those samples that were sent out, most center directors did not know if a CF specific protocol was used. Although overall 5% of samples were sent out, this was as high as 20 to 30% in some geographical areas. Solutions that were proposed include a one-page summary of CF microbiology, with rationale and a recommended protocol to be developed. In addition, suggestion was made for inclusion of a CF specific protocol in the CAP inspection checklist. Finally, Dr. Gilligan suggested that perhaps a section on CF microbiology could be included in the Clinical Microbiology Procedures Manual of the American Society for Microbiology. He will plan to talk to Dr. Pat Murray about possibly including this in the next edition.

Dr. Coenye reported progress with the IBCWG web page. Dr. Paul Whitby also presented information on the list serve that is currently ready to be accessed. A discussion ensued about privacy on the list serve and how it would be used. It was felt that it should be restricted to scientists who are referred by existing members of the IBCWG. Potential uses include announcing meetings, requesting isolates, and discussing clinical questions.

The 2002 IBCWG meeting planned for San Antonio in April was discussed. Drs. Carlos Gonzales and John LiPuma are planning the meeting this year. They were encouraged to draft some rules regarding no-shows and registration fees. In the past, there have been a large number of people who have committed to come and then not show up. Thus, a registration fee of \$100 U.S. was proposed to ensure that monies expended for participants who later canceled would be at least possibly covered.

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Abstracts, speakers, and presentation format were also discussed and it was felt to be best left up to the meeting planners. Discussion of a possible meeting in 2003 at the Wellcome Trust will be investigated by Dr. Mahenthiralingam.