Branhamella (Moraxella) catarrhalis: an emerging pathogen in Pakistan

Sir,

Branhamella (Moraxella) catarrhalis has received little attention until recently. Strains isolated from clinical material were often disregarded because of repeated, confident assertion that the organism was non-pathogenic and commonly present in the normal pharynx. However an increasing appreciation of the pathogenic potential of B. catarrhalis and concern regarding the increasing prevalence of beta-lactamase producing strains in clinically significant infections have been reflected in numerous recent reports.

A total of 150 patients were studied at the Armed Forces Institute of Pathology, Rawalpindi to determine the association of B. catarrhalis with respiratory tract infections. Duration of study was 3 months from September to November 1994. B. catarrhalis in pure culture was sought in sputum and throat swab specimens. All patients lived in urban areas within the Rawalpindi division. None of the patients had been taking antibiotics within one week of the study. A swab was taken from the posterior pharynx by the investigator. A morning specimen of the sputum was collected and transported to the laboratory within one hour. Both specimens were kept at 4°C and processed within 6 hours. After preparing a smear for a direct gram film, each specimen was then plated out onto 5% human blood agar and chocolate agar, incubated at 35°C for 24-28 hours. Gram-negative cocci that grew on these media were identified as B. catarrhalis as described in the manual of clinical microbiology 1990. Beta-lactamase production was tested with acidometric paper strip method. Antibiotic susceptibility testing was done by Stokey's method using ampicillin (25 µg), erythromycin (6µg), cotrimoxazole (25 µg), tetracycline (25 µg), augmentin (coamoxiclav 30 µg), cefuroxine (30 µg) and ofloxacin (10 µg).

Twenty-nine (19.3%) isolates of B. catarrhalis were identified. Twelve (41.38%) were from sputum and seventeen (58.62%) from throat swabs. The age range was from 10-82 years, with most of the patients between 25 and 35 years. B. catarrhalis was involved in acute exacerbation of chronic respiratory illness in ten patients (34.48%). Six of these ten patients (60%) were suffering from bronchial asthma. All isolates were beta-lactamase producers and therefore resistant to ampicillin, but all were sensitive to co-amoxiclav (augmentin). Variable resistance was found to erythromycin and tetracycline but all were sensitive to clarithromycin and ofloxacin.

B. catarrhalis was much more commonly isolated from nasopharynx of patients with asthma (70 to 75%) than in normal controls. B. catarrhalis often produces beta-lactamase, and the repeated courses of antibiotics often received by asthmatics may produce resistant organisms. Recently there has been an alarming increase of beta-lactamase production ranging from 75% in Nagasaki, Japan, to 83% in Beijing, China. Our isolates were 100% (29/29) positive for beta-lactamase. More work should be carried out to further substantiate the role of B. catarrhalis in chronic respiratory infections with special emphasis on asthma.

References

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