

TITLE : CANDIDA INFECTIONS IN SURGICAL PATIENTS STAYING IN I.C.U. : A PROSPECTIVE STUDY.
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Aim of this study was a prospective evaluation of incidence, clinical setting and outcome of Candida infections in surgical patients entering a 15 bed intensive care unit (I.C.U.)

This prospective open study (40 months) involved 450 poly-trauma or surgical patients with post operative complications having an I.C.U. stay of more than 3 days. In each patient systematic serial studies beginning at admission and covering the patient's entire I.C.U. stay were performed. The following specimens were collected (at admission, then at least once a week) for culture of Candida organisms: swabs from throat and rectum, stools, sputa or bronchial secretions, aspirates from abscess or closed-cavity drainages, clean-catch urine. Blood cultures were obtained when needed. Complete species identification were performed for every yeast isolated on culture. Serial tests for antibody to candida were performed (at admission, then once a week) using agglutination reaction, indirect immunofluorescence method and immunoelectrophoresis. Each time a patient was suspected of candidemia, serial ocular fundoscopies were performed. Correlation between clinical conditions, results of specimen cultures and serological findings led to the differentiation between colonization and infection, using criteria previously defined (1,2). All candida infections were treated by amphotericin B alone or in combination with flucytosine.

High density colonization of the gastrointestinal (G.I.) tract was present in 53 patients (11.7 p. cent). Among these patients 26 proved to have disseminated candidiasis (with positive blood cultures in 8 patients) and 12 had local non G.I. infections (Pneumonias, urinary infections, cholecystitis). In no instance catheter-related thrombo-phlebitis was the cause of candidiasis. Candida Albicans, Candida Tropicalis and Torulopsis Glabrata were the main yeast species isolated. Candida endophthalmitis was observed in one patient. Overall mortality was 16 p. cent in the 38 patients with candida infections, and 25 p. cent in the group of patients with disseminated candidiasis and positive blood cultures. Comparison with literature shows that this mortality rate is a very low one for candida infections. We explain these results by an early diagnosis (and treatment) owing to systematic serial cultures from multiple sites and serial serological tests performed in at risk patients.

References

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A221

TITLE : INCIDENCE OF NOSOCOMIAL BRONCHO PULMONARY INFECTION IN VENTILATED PATIENTS USING STANDARD MEANS OF PREVENTION.

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The study included all patients admitted to a 15-bed intensive care unit (I.C.U.) who required continuous mechanical ventilation (C.M.V.). All of the ventilators models used humidification of inspiratory gas via a cascade humidifier. The ventilator circuit (non-disposable tubing, water collectors, temperature sensor, and humidifying cascade) was changed every Monday, Wednesday, and Friday. All non-disposable parts of the respiratory equipment were reused after sterilization. During C.M.V. humidifying cascades were filled with sterile water. Suctioning of bronchial secretions were performed, after hand washing, using sterile gloves and sterile aspirator. All bronchopulmonary infections (BPI) beginning after 48 hours in I.C.U. were considered as I.C.U. nosocomial BPI (N.B.P.I.). Diagnosis of B.P.I. was established using Center for Diseases Control criteria. Samples of bronchial secretions for bacteriologic assessment of the lower respiratory tract were obtained either by fiberoptic protected brush biopsy or blind bronchial aspiration. At the end of patient's I.C.U. stay the charts for each patient were reviewed and the principal data stored in an IBM computer, using a specially written program.

During the 6 year period of the study, 3,645 patients were

admitted to the I.C.U. and 1,845 patients were under C.M.V. Mean duration of C.M.V. was 6.8 ± 11.8 days, N.P.P.I. was observed in 466 patients (12.7 % of all patients). N.B.P.I. rate was 3.1 % (56/1800) in non-ventilated patients and 22.2 % (410/1845) in ventilated patients ($p < 0.001$).

Highly significant differences ($p < 0.01$) in mean duration of C.M.V., mean duration of I.C.U. stay, and mortality rate were observed between patients with and without N.B.P.I. (table I).

Our results show that despite the use of standard means of prevention, a higher than 20 % incidence of N.P.I. was observed. Such incidence urges new ways of prevention to be proposed.

Patients	Mean duration of		Mortality rate (p.cent)
	C.M.V. (days)	I.C.U. stay (days)	
ventilated without NBPI (n = 1435)	3.55 ± 6.81	7 ± 10.4	22.0
Ventilated with NBPI (n = 410)	18.2 ± 17	28.2 ± 22	35.8
All (n=1845)	6.81 ± 11.84	11.7 ± 16.6	25.1