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Research Article

CLINICAL PROFILE OF PATIENTS WITH SEPTICEMIA

Dr. Muhammed Khalid Shaikh^{1*}, Dr. Majid Ali Soomro¹, Dr. Hamid Nawaz Ali Memon²,
Dr. Mashal Dad¹, Dr. Sumera Bukhari³ and Dr. Zulfiqar Ali Qutrio Baloch⁴

¹ Department of Medicine, Liaquat University of Medical and Health Sciences (LUMHS)
Jamshoro.

² General Practitioner Zulekha Hospital, Dubai United Arab Emirates.

³ St. Francis Medical Center, Trenton, New Jersey.

⁴ Brandon Regional Hospital, Brandon, Florida, U.S.A.

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Abstract:

OBJECTIVE: To evaluate the clinical profile of patients with septicemia.

PATIENTS AND METHODS: This cross sectional case series study of six months was conducted at tertiary care teaching hospital Hyderabad. The admitted patients of age ≥ 18 years, either gender diagnosed as sepsis were recruited. The diagnosis of sepsis was made by the detail clinical history and examination and relevant investigations. The clinical parameters include fever, hypothermia or hyperthermia, tachycardia, tachypnea, leucocytosis or leucopenia, acute altered mental status, thrombocytopenia, hypotension. The etiological diagnosis requires isolation of pathogen from the blood or local site of infection. The Gram staining and culture of the specimen from the site of infection for microbial study was taken. Other relevant laboratory investigations depending upon the requirement were advised accordingly.

RESULTS: During six months study period total fifty individuals with sepsis were recruited and studied for detecting the focus of infection. The mean age \pm SD for whole population was 55.83 ± 8.95 with male gender predominance 37 (74%). The male gender was predominant 37 (74%), Common co-morbidities observed were diabetes 7(14%), hypertension 5(10%) and chronic liver disease 3(6%). The common source of infection detected were respiratory infection 10(20%), urinary tract infection 8(16%) and wound infection 06(12%). Forty two (84%) patients were recovered while eight (16%) were expired.

CONCLUSION: Respiratory and urinary tract infection and wound infections were the most common source of sepsis.

KEYWORDS: Septicemia, Infections, Sepsis

Corresponding author:

Dr. Muhammed Khalid Shaikh,

Department of Medicine,

Liaquat University of Medical and Health Sciences (LUMHS),

Jamshoro.

Email: zulfikar229@hotmail.com

QR code



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INTRODUCTION:

Sepsis refers to the systemic response to infection by any microorganism, the microbial invasion in blood stream not mandatory for the occurrence of sepsis but blood and urine studies can yield bacteria or fungi. [1-3] The existence of bacteraemia is an indication for spread of infection and generally indicates a worst prognosis associated with localized disease. [4] Sepsis is the common cause for mortality in medical wards and intensive care units particularly in elderly, immune-compromised and critically ill patients and can leads to septic shock.[5] The incidence of sepsis and septic shock has been increasing and the reason for such increase incidence might be use of invasive devices as intravenous catheters, cytotoxic and immunosuppressive drug therapies for malignancy and transplantation, diabetic patients who are prone to acquire sepsis and infections due to low immunity.[6,7] The physicians use different terminologies for similar but overlapping clinical disorders, previous literatures shown different terminologies as far as terms bacteraemia, infection, sepsis, septicaemia, sepsis syndrome and septic shock is concerned. [8] Regarding management, due to occurrence of resistance for antibiotics the management of septicemia became difficult and complicated. [9, 10] Therefore, this study was conducted to evaluate the focus of septicemia at tertiary care hospital and will help the clinician to planning the strategy for treatment of septicemic patients.

PATIENTS AND METHODS:

This cross sectional case series study of six months was conducted at tertiary care teaching hospital Hyderabad. The admitted patients of age ≥ 18 years, either gender diagnosed as sepsis were recruited. The

diagnosis of sepsis was made by the detail clinical history and examination and relevant investigations. The clinical parameters include fever, hypothermia or hyperthermia, tachycardia, tachypnea, leucocytosis or leucopenia, acute altered mental status, thrombocytopenia, hypotension. The etiological diagnosis requires isolation of pathogen from the blood or local site of infection. The Gram staining and culture of the specimen from the site of infection for microbial study was taken. Other relevant laboratory investigations depending upon the requirement were advised accordingly. The exclusion criteria were the patients with systemic inflammatory response syndrome with no evidence of infection and the individuals <18 years of age. The important investigations includes routine tests along with blood culture and sensitivity, sputum examination, throat swab and urine for culture and sensitivity, body fluids includes ascitic fluid and pleural fluid and wound swab and scrapings. The focus of infection was considered to be focal if the signs and symptoms of localized infection exist and the organism was isolated in the specimen taken from the site. The data was recorded on pre-designed proforma while analyzed in SPSS 16. The frequency and percentage was calculated while the mean \pm SD was computed for numerical variables.

RESULTS:

During six months study period total fifty individuals with sepsis were recruited and studied for detecting the focus of infection. The mean age \pm SD for whole population was 55.83 ± 8.95 with male gender predominance 37 (74%). The demographical, etiological and outcome of the study population is presented in Table 01.

TABLE 01: THE DEMOGRAPHICAL, ETIOLOGICAL PROFILE AND OUTCOME OF STUDY POPULATION

AGE (years)	FREQUENCY (N=50)	PERCENTAGE (%)
18-29	06	12
30-39	07	14
40-49	12	36
50-59	15	30
60+	10	20
GENDER		
Male	37	74
Female	13	26
OUTCOME		
Recovered	42	84
Died	08	16
Continue.....		
CO-MORBIDITIES		

Diabetes mellitus	07	14
Hypertension	05	10
Chronic liver disease	03	06
Malignancy	02	04
COPD	04	08
No any	29	58

SOURCE OF INFECTION

Respiratory tract infection	10	20
Urinary tract infection	08	16
Wound infection	06	12
Gastrointestinal infection	04	08
Obstetrics	04	08
Mixed	06	12
Not identified	12	24

DISCUSSION:

This study was performed to determine the focus of sepsis in medical wards. Studies by Sands KE, et.al [11] showed that blood cultures were positive in about 28% of patients with Gram positive cultures being most frequent isolates. In our study total 50 adult patients with clinical diagnosis of septicemia were evaluated, the blood culture was positive in 38 patients of sepsis. Martin GS. et.al [12] studied the demography, temporal incidence and alterations in incidence and outcomes and observed that sepsis was more common in male population and were more likely to have sepsis than women while the studies by previous workers also indicated a higher incidence among male population [13, 14] The findings are consistent with the present study. Marshall J, et.al [15] shown sepsis was more common in elderly people with mean age of the study population was 54.9 years while in present study the mean age \pm SD for whole population was 55.83 \pm 8.95. Study by Martin GS et al [12] observed mortality ranges from 16.8 to 31.8%, the reason for increasing mortality might be due to immunosuppressive medications, transplantation, increase microbial resistance and predominant elderly population, diabetes mellitus, hypertension, chronic renal failure and puerperal sepsis. The common focuses for septicemia in present study were respiratory, urinary and wound infections, the findings are consistent with the study by Stearns-Kurosawa DJ, et al and Gilham C, et al. [16, 17] We had studied small number of patients and not included nosocomial sepsis, the present study was conducted at one hospital where we unable to assess geographical or racial variation as far as sepsis is concerned.

CONCLUSION:

Respiratory and urinary tract infection and wound infections were the most common source of sepsis. The systematic approach by culture of organisms from the foci and blood culture with antibiotic profile may support the clinician to select the appropriate specific therapy.

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