Bacteriological and epidemiological study of impetigo

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Abstract

Impetigo is a common superficial purulent infection of skin caused by species of their Streptococcus or Staphylococcus. It can affect all age groups but particularly young children. Peak incidence occurs during summer and fall and the male-to-female ratio is equal. This infection tends to affect areas subject to environmental trauma, such as the extremities or the face. To study the bacteriological and epidemiological features of impetigo cases. A descriptive study conducted on patients who were attending outpatient clinic in Tikrit teaching hospital from the period from 1st September to the end of December year 2007. The study sample included (100) patients. The cases were diagnosed clinically and swabs from the site of infection were collected and send to lab for identification of pathogens. It has been documented that (75%) of cases were among children. The cases of impetigo were nearly similar in distribution among male and female (the ratio of male to female = 49/51=0.9). The cases of impetigo were more frequent in the exposed area of the body like face (48%) and extremities (29%). The most frequent pathogens isolated were *Staphylococcus aureus (47%)* and *Streptococcus pyogenes* (33%).

Keywords: bacteria, epidemiology, impetigo

Introduction

Impetigo is a common superficial purulent infection of skin caused by species of their Streptococcus or Staphylococcus (1,2,3). There are two forms of impetigo, bullous and nonbullous (4). It appears that in warmer climates streptococcus is more likely to be the primary organism, but in temperate climate Staphylococcus predominates. It can affect all age groups but particularly young children (1,5,6). It was most commonly in situations of overcrowding and communal living and among those with skin disease like eczema and infestations (1,7). Impetigo that is widespread or involves deeper tissues should be treated with a beta-lactamase-resistant oral antibiotic (3). Currently *Staphylococcus aureus* is the prominent pathogen responsible for nonbullous impetigo, accounting for 50-60% of the cases. In addition, approximately 20-45% of the cases are due to a combination of *Staphylococcus aureus* and *Streptococcus pyogenes* (5,8,9). The bullous form of impetigo is less common than the nonbullous form. The causative agent of bullous impetigo is gram-positive, coagulase-positive, group II *Staphylococcus aureus*, most often phage type 71. (10). In United States, impetigo is a common skin disease, accounting for 10% of skin diseases treated in pediatric clinics. Peak incidence occurs during summer and fall (7, 11) and the male-to-female ratio is equal (5). Impetigo is usually diagnosed clinically and bacterial culture and sensitivity are recommended (5). Impetigo often occurs around the mouth or nose, where skin is easily damaged (6). This infection tends to affect areas subject to environmental trauma, such as the extremities or the face. Spontaneous resolution without scarring typically occurs in several weeks if the infection is left untreated (9).

Patients and Methods

Descriptive study was conducted on patients who were attending outpatient clinic in Tikrit teaching hospital from the period from 1st September to the end of December year 2007. The study sample

included 100 patients. The personal characteristics of patients were obtained by direct interview of the researcher with the patients according to the prepared questionnaire. The cases were diagnosed clinically by the assistance of Dermatologist and a swab was taken from the site of the lesion and send directly to the lab for culture and sensitivity and direct examination of bacteria under Light microscope after staining with Gram stain (12, 13).

Results

The current study revealed that the impetigo cases were more frequent among children age group (75%) and there were no significant difference between and male and female (Table -1-, fig.1, fig.2).

Fig.3 shows that the distribution of impetigo cases more frequent in face (48%) followed by extremities (29%).

Fig .4 revealed that the most frequent bacterial isolates were *Staphylococcus aureus* (47%), *Streptococcus pyogen* (33%) and mixed (Staph. and Strept.) (18%).

Discussion

The study revealed that the distribution of impetigo cases were more prominent among children (75%). This result is similar to the results of studies done in USA, England and Karachi (6,14,15). This can be attributed to the immunity of children at this age in which children are more vulnerable to the infectious diseases.

The ratio between male to female in this study is nearly equal. This finding agrees with other findings revealed in USA and Great Britain (5). This can be that there is no effect of gender on occurring of the disease.

Regarding the site of distribution of impetigo cases, the most prominent cases were in the face and extremities. This result was in agreement of other studies (7,13). This may be attributed that these sites were more to trauma which is one of the risk factors of the disease.

Staphylococcus aureus is the prominent pathogen responsible for impetigo (47%), followed by *Streptococcus pyogen*. This results is similar to the results obtained in all other studies like those done in USA, England and Pakistan (5, 8, 9, 15)

References

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Table (1) Distribution of impetigo cases according to age group and gender.

Age in years	Male	Female	Total	%
<1-10	36	39	75	75
11-20	5	8	13	13
21-30	5	2	7	7
31 and more	3	2	5	5
Total	49	51	100	100

fig.(1) distribution of impetigo cases according to gender

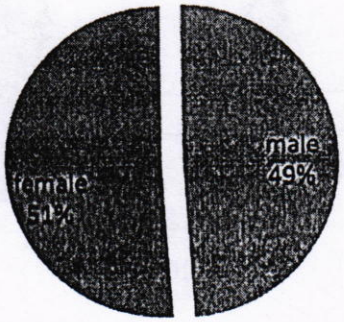

fig.(2) Distribution of impetigo cases according to age groups

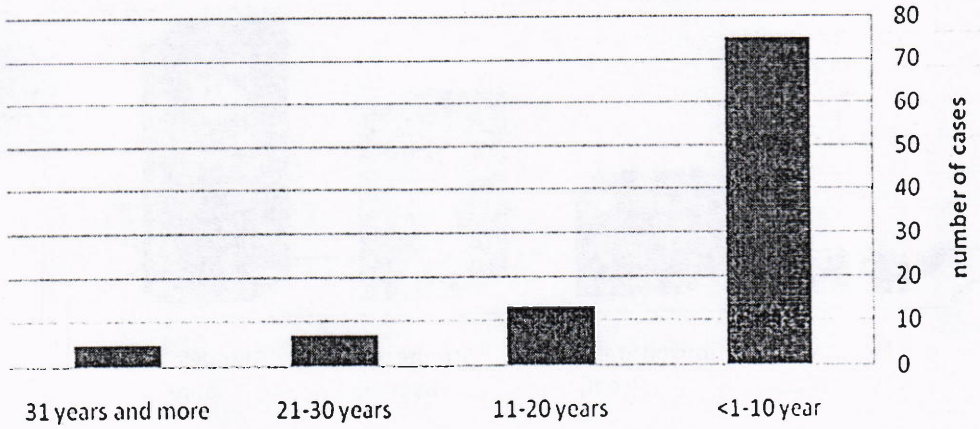

fig. (3) Distribution of impetigo cases according to site of infection.

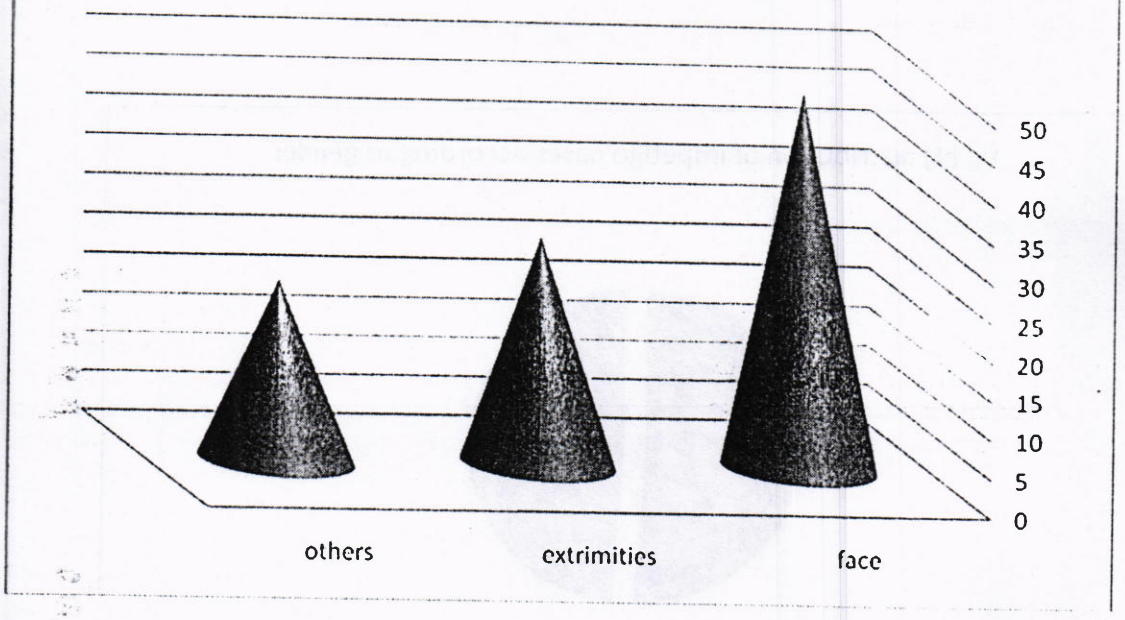

fig.(4) Distribution of impetigo cases according to type of bacteri isolates