

Survey about Typhoid fever in Refaaye sector, Thiqaar

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Abstract:

Typhoid fever is a major health problem throughout the world, there are more than 21 million cases of typhoid each year. Beside that there are more than 500000 deaths. Early diagnosis or detection of the disease is very important for its control. In presented study the typhoid fever detected by, clinical picture, isolation of the causative agent, and confirmed the diagnosis by serological test (Widal test). According to the results the typhoid fever in Refaaye sector were 604, 426, and 207 in 2004, 2005, and 2006 respectively as positive cases. The numbers of positive cases suffered from typhoid fever were 8 cases in January , 2004, while positive cases which increased in summer reach to 111 in July ,2004. On other hand the numbers of positive cases wre 6 cases in January, 2005, while positive cases markedly increased in July,2005 which are about 64 positive cases. Finally typhoid fever were recorded in January 2006, about 2 cases , while in July the numbers of positive cases were increased and reach to 65. this mean the typhoid fever in hot months more common than cold months.

Introduction:

Typhoid fever (Enteric fever) is an important syndrome produced by only a few of *Salmonellae*, of which *Salmonellae typhi*, the causative agent belong to *Enterobacteriaceae*, *Salmonellae* are often pathogenic for human and animals when acquired by the oral route , they are transmitted from animals and animals products to human , the causative agents vary in length, most isolates are motile with peritrichous flagella, can grow readily on simple media like Nutreint agar , beside that found selective media and enriched media for isolation and identification, generally they are never ferment lactose or sucrose, while they form acid and sometime gas from glucose and mannose , they usually produce H₂S.(Jawetz,*et.al*,2004). Another features for *Salmonellae* that survive freezing in

water for long periods , and resistance to certain chemicals like brilliant green , sodium tetrathionate and sodium deoxycholate, according to new classification there are more than 2500 serotype of *Salmonellae* , including more than 1400 in DNA hybridization group I that can infect human(Abdul,*et.al*,1999 , Jawetz *et.al*,2004)

The organisms always enter via the oral route , usually with contaminated food or drink, the mean infective dose to produce clinical or subclinical infection in human is 10^5 - 10^8 *Salmonellae* , but perhaps as few as 10^3 in *Salmonellae typhi* ,*Salmonellae* produce three main types of disease in humans , but mixed forms are frequent typhoid fever , bacteremia with focal lesions and enterocolitis(Tom, *et.al*,2003 , Jawetz,*et.al*,2004).

In case of Typhoid fever , ingested *Salmonella* reach the small intestine, from which they enter the lymphatics and then the blood stream. They are carried by the blood to many organs, the organisms multiply in intestinal lymphoid tissue and are excreted in stool. The incubation period differ according to serotype for, example the incubation period of typhoid fever about 10-14 days, Enterocolitis 8-48 hours, while septicaemia was variable. After incubation period in typhoid fever, fever, malasia, headache, constipation, bradycardia and myalgia occur, another signs include spleen and liver become enlarged, rose spot, usually on skin of abdomen and chest are see briefly in rare cases, the chief complication of typhoid fever were intestinal hemorrhage and perforation and the mortality rate was 10-15%, while treatment with antibiotics was reduced the mortality to less than 1%.

Diagnosis of typhoid fever depending upon , case history, clinical symptom, isolation and identification of the causative organism by different bacteriological media like macConkey agar, silient broth, and indirect method by serological test.(. Sherif 1998 , Jawetz, *et.al*,2004).

Untreated cases may be lead to dead, therefore antimicrobial therapy should be used immediately, so invasive salmonellae treated by ampicillin, trimethaprime sulphamethoxazole, or third generation of cephalosporine, sensitive test is an important adjunct to selecting a proper antibiotics (Jawetz,*et.al*,2004).

In recent studies used typhoid vaccine to prevent typhoid and there are two vaccines , one is inactivated (killed) vaccine and the others is live, attenuated weakened

vaccine which is taken orally, routine typhoid vaccination is not recommended in the United states, but typhoid vaccine is recommended for travelers to parts of the world where typhoid is common, for peoples in close contact with typhoid with typhoid carriers, also for laboratory workers who work with *Salmonella typhi* bacteria (CDCs typhoid ,2004).

Typhoid is a major health problem throughout the world. Globally, there are more than 21 million cases of typhoid each year, with more than 700,000 deaths, its especially prevalent in developing countries such as Pakistan. Early detection of the disease is very important for its control, but unfortunately, definitive diagnostic procedures are not available (Adull - Hage .et.al,1999).

The aim of study to detect the positive cases of typhoid fever in Refaaye sector.

Materials and Methods

The diagnosis depend on case history, clinical pictures and isolation of causative agents and finally serological test (widal test) .

Suspected cases of typhoid fever were sent to central microbiology laboratory in Refaaye hospital and other hospital sector (Al-Fajer and Qulaat sukar).

Diagnosis of cases depend on direct methods represented by isolation of causative agents on specific like Selenite broth, MacConkey agar and Triple sugar iron media and stained by Microbiological staining like gram stain (Ellen et.al; 1990; Mims, et.al,1998).

Indirect methods of detected the positive cases (final diagnosis) by Serological test (Widal test).

Results

In presented study, shows the numbers of positive typhoid fever, which detected from three regions (Al-Refaaye, Al- Fajer and Qulaat sukar cities). In the Refaaye sector.

The results not reflected the exactly results because many of cases went to specific clinic and specific laboratory

Table one, shows the numbers of positive typhoid fever in 2004, male affected by typhoid fever about 306, while the females were affected by typhoid fever about 298.

Table two, shows the numbers of positive cases in 2005, that the numbers of male affected by typhoid fever about 201, while the affected female about 225.

Table three, shows the number of positive cases in 2006, that the numbers of male affected by typhoid fever about 84. while the affected female about 143 according to tables, in 2004, 2005, 2006, the hot month (July) characterized by increasing the positive cases .

Table 1: shows the numbers of typhoid fever in Refaaye sectors,2004

Month	No. of typhoid fever in male	No. of typhoid fever in female	Total
Jan.	5	3	8
Feb.	10	12	22
Mar.	10	10	20
Apr.	29	19	48
May.	22	19	41
Jun.	33	20	53
Jul.	54	57	111
Aug.	25	63	88
Sept.	46	46	92
Oct.	42	31	73
Nov.	27	18	45
Dec.	3	zero	3

Table 2: show the numbers of typhoid fever in Refaaye sector (2005)

Month	No. of typhoid fever in male	No. of typhoid fever in female	Total
Jan.	2	4	6
Feb.	5	5	10
Mar.	22	13	35
Apr.	22	18	40
May.	41	20	61
Jun.	20	19	39
Jul.	27	37	64
Aug.	14	31	45
Sep.	15	25	40
Oct.	15	30	45
Nov.	14	16	30
Dec.	4	7	11

Table 3, show the numbers of typhoid fever in Refaaye sector (2006)

Month	No. of typhoid fever in male	No. of typhoid fever in female	Total
Jan.	1	1	2
Feb.	1	4	5
Mar.	10	10	20
Apr.	4	6	10
May.	6	5	11
Jun.	29	35	64
July.	11	54	65
Aug.	4	8	12
Sep	7	7	14
Oct	3	7	10
Nov	6	5	11
Dec	2	1	3

Discussion

The vast majority of *Salmonella* however are chiefly pathogenicity in animals that constitute the reservoir for human infection, poultry, pigs rodents, cattle, pets, and many others (Jawetz *et.al*, 2004).

Typhoid fever in underdeveloped countries represented a major problem while in united state for example the cases reduced. In 1860 Dr. Wilham Budd discovered that contamination of water with human excreta was responsible for the transmission of typhoid fever (Robbert,1988) But other sources responsible for disease transmission typhoid or enteric fever is an important infections disease the causative agents like *Salmonella paratyphi A* and *Sal. Paratyphi B* or primarily infective for humans (Jawetz *et.al*, 2004).

Salmonella invade the gut resulting in an inflammatory response and subsequent diarrhea, than septicaemic illness (Tom *.et. al*, 2003).

In this study, the laboratory diagnosed depend on, isolation the bacterial causative agent, and biochemical reaction was done by tube method according to the manufacture instruction, in other hands there are different techniques are used for the diagnosed of typhoid, including blood culture, bone marrows culture, rectal swab culture, urine culture,

Rose-spot culture, Elisa and immunofluorescence widal test & blood culture remain the only universally practiced diagnostic procedures, in recent study there is other methods like polymerase chain reaction (PCR) used for diagnosis the typhoid fever, this PCR- based technique is not only absolutely specific, but also very sensitive and there fore much superior to blood culture and widal test for the early diagnosis of typhoid (Abdul-Haque, *et. al* 1999). Polymerase chain reaction- based technique has 100% specific for *Salmonella typhi* during the first week of illness.

Therefore in this study used the widal test is the most reliable laboratory technique in our laboratories and its more sensitive for detect the typhoid fever , similar results about the sensitivity was cited by Abdulhaque *et.al.*, 1999)

دراسة مسحية عن حمى التايفوئيد في قطاع الرفاعي ذو قار

حيدر خميس شنان
كلية الطب/ جامعه ذي قار

الخلاصة

في الدراسة الحالية تم التشخيص حالات الاصابة بحمى التايفوئيد من خلال العلامات المرضية وعزل المسبب المرض وتم التشخيص النهائي من خلال الفحوصات السيولوجية (فحص الويدال). الحالات التي تم تشخيصها في قطاع الرفاعي والمتمثل (بمستشفى العام الرفاعي-قلعه سكر-ومستشفى ناحية الفجر) للأعوام ٢٠٠٤ و٢٠٠٥ و٢٠٠٦ هي ٢٠٤ و٢٦ و٤٠٧ على التوالي

لوحظ في هذه الدراسة أن حالات الإصابة بمرض التايفوئيد كانت ٨ حالات في شهر كانون الثاني لعام ٢٠٠٤ بينما كانت عدد الإصابات ١١١ حالة موجبة لشهر تموز من العام نفسه. أما في عام ٢٠٠٥ أظهرت النتائج أن عدد الحالات الموجبة كانت ٦ في شهر كانون الثاني وأعلى إصابة كانت في شهر تموز للعام نفسه حيث كانت ٦٤ حالة إصابة موجبة. بينما في عام ٢٠٠٦ كانت أعداد الإصابة لشهر كانون الثاني هي ٢ حالة موجبة بينما سجلت ٦٥ حالة موجبة في شهر تموز من العام نفسه. هذا يشير إلى أن حمى التايفوئيد تكون أقل انتشاراً وظهوراً في فصل الشتاء مقارنة في فصل الصيف الذي قد سجلت فيه ارتفاع أعداد الإصابة

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