Emergence of relapse in supervised chemotherapy pulmonary tuberculosis in Diwanyah.

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الخلاصة

دراسة راجعة شملت (3818) بارة لمرضى التدرن في محافظة الديوانية للفترة من (ك2 2002- لغاية ك1 2006) لدراسة نسبة النكوس للمرضى الذين سبق ان اتموا العلاج باشراف مراكز الرعاية الصحية الاولية المنتشرة في عموم المحافظة وقد اعطوا نتيجة (شفاء وتكمل) بعد فترة من ذلك واثناء الفحص الدوري لهم تبين ظهور نتيجة موجبة . في هذه الدراسة وجد ان نسبة الحالات الناكسه هو 6.9% كانت الاعلى في عام 2004 اذ بلغت 8% بينما كانت الاقل في عام 2002 اذ كانت 1.5 % . كما وجد ان الفئة العمرية الاكثر من 65 سنة) الاكثر عرضة لزيادة الحالات الناكسة ووجد أيضا إن نسبة الذكور أكثر من الاناث لهذه اكثر نسبة في المرضى الذين يسكنون المناطق النائية منه في المديكما وجد ان الحالات الناكسة اكثر عند مرضى التدرن الذين يشكون في الوقت نفسه من امراض اخرى مثل داء السكري , فشل الكليتين , قرحة الاثني عشري , الربو المزمن , السرطان وغيرها .. كما ان هناك بسببهم اخر وجد اثناء الدراسة لزيادة نسبة الحالات الناكسة وهو انقطاع المريض المتكرر عن اخذ العلاج لاي سبب كان .

Summary

In Diwanyah, as in all other Iraqi governorates, fully supervised short coarse chemotherapy is being followed for the initial intensive phase of tuberculoses treatment since (2000). Generally, relapse rate with such short coarse chemotherapy has been less than 4%. In this retrospective study, we have studied the files of (3818) of already diagnosed as positive TB cases (pulmonary and extra pulmonary) from those (1203) positive cases where found, during the last 5 years and they were supervised short course chemotherapy. Pattern of relapse was analyzed in (1203) positive cases registered cases of P.T.B over all relapses in new cases was 6.9 % , being the highest in the year (2004) where it was (8 %) , while the lowest in the year (2002) where it was (1.5 %) .

Introduction

Multi-drug therapy has been accepted as a definitive modality of treatment of TB with hundred percent success in a well planned and meticulously excuted treatment programme, but over a period of time relapses do occur in some of treated cases. Evolution of relapses cases, often reveals that relapse was caused by drug – sensitive organisms, however, with changing times, global resurgence of TB. And the emergence of multi-drug resistant strains of organisms, there seems to be a change in the drug sensitivity pattern met within relapse cases. It has been observed that recurrence of the disease in successfully treated patients can even be caused by totally different strains of mycobacterium, which were not the causative, a gents during the initial attack (BN panda).The present study is a retrospective analysis of the relapse cases of pulmonary TB. All these patients were supervised Scc, given fully treatment. This study reveal that most cases of relapses occure among old age group (> 65 years) , which was about 70% of all relapses cases , also it was more among male patients (65% , 35%) , the residence of the patients also play a rule in increasing In Addition to all above factors, there is an important factor relating to increasing rate of relapse, which is devotion from treatment, where we notice that 40.7% of relapse cases were being devoted from treatment for one or more times, while only 34.5% of relapse cases were not devoted .Finally we find that the highest rate of relapse was at 2004(8%) of cases, while the lowest was at 2002(1.5%) of the relapse cases .Although tuberculosis is a problem of rapidly diminishing proportion in western Europe & North America, it remains, in the words of W.H.O report " the most important specific communicable disease in the world " Davidson 2000".

The fact that TB is a specific infective disease was first proved by "Koch's" discovery of tubercle Bacilli in 1882. Three types of mycobacterium are responsible for disease in man.

a- The human type (mycobacterium tuberculoses): Responsible for almost all infection in man.

b- The bovine type: Endemic in cattle, but very rarely responsible for disease in man.

c-The Atypical or (Opportunistic mycobacterium), its clinical importance leis in its ability to cause infection in cervical lymph nodes in children and rarely pulmonary disease in adults, when treatment may be a problem because the mycobacterium are primarily resistant to many drugs.

The characteristic lesion of tuberculosis is the "tubercle".This consists of a microscopic nodular collection of epethiliod cells surrounded by zones of lymphocytes and fibroblasts. There might be a giant cell & few bacilli in the center. Adjacent tubercles enlarge & coalesce at an early stage & this is followed by central necrosis "caseation". This tend to heal by fibrosis & calcification, but distribution & reparative process frequently co exit.

Progressive pulmonary tuberculosis may develop:

a-directly from a primary lesion.

b-later following reactivation of an in completely healed primary focus in the lung.

c-Haematogenous dissemination from an unhealed lymph node lesion.

d-Re-infection from an out side source.

All these forms of pulmonary tuberculosis although differing in pathogenesis, have similar pathological features & can be grouped together under the term " post-primary pulmonary tuberculosis ". The characteristic pathological feature of this condition is the " tuberculoses cavity " , which forms when the caseated and liquefied center of tuberculosis pulmonary lesion is discharge into bronchus.Most of the morbidity and mortality from tuberculosis is caused by this from of the disease. Although in developing countries it is most prevalent in adolescence & early adult life, the majority of cases in Western Europe & North America now occur in middle-aged & elderly subjects, particularly males.The lesions are most frequently situated in the upper lobes. Another common site is the apex of a lower lobe. The disease is often bilateral, usually it starts in one lung & spreads via the bronchi to the other; less commonly it develops in both lungs at the same time.

Materials and Methods

All the relapse cases of pulmonary tuberculosis in Diwanyah governorate during the period from (January 2002 to December 2006), were analyzed. The patients were scattered in community in many occupations, who had earlier received fully supervised short course chemotherapy, with two months of intensive treatment with streptomycin (S), or Ethambutol (E), Isoniazed (H) , Rifampicin (R), and pyrazinamide (Z), daily followed by (RH) daily for a total of (6-8) months in different primary health care centers in the governorate .After successful initial completion of initial anti- tuberculosis treatment (ATT) the study cases were being evaluated clinically, radio logically, and bacteriologic ally, at three months intervals during the first six months 18 months and once a year there after for the next three years, to detect any relapse occurs. If sputum was found positive for acid fast bacilli (AFB), examination was repeated weekly for the next one month. Relapsed tuberculosis is defined as "A patient who has been cured from TB after one full coarse of chemotherapy in the past, then has become sputum positive again".

Results

During the period (January 2002 to December 2006) a total of (3818) pulmonary and extra pulmonary tuberculoses (1203 of these were found positive pulmonary TB patients were provided sanatorium based short course chemotherapy. (87) Of these cases were complain relapse after they had complete their ordinary regimen. We divided these relapse cases as follow:

1) Distribution of relapsed according to sex:

Table (1) shows that there were (57) males having relapse out of (87) total relapse cases (65%) while female relapse were only (30) representing (35%) of total relapsed cases.

Although this slight increase in percentage of positivity and this high ratio in number of cases but by using chi-square calculation, we found that there were no significant statistical differences between both sexes.

2) "Distribution of relapse according to association of TB with other systemic disease".

Table (2) shows that, there were (63) out of (87) total relapse cases had other systemic disease (73%) like D.M, Renal failure, D.U.,CA chronic asthma., while those who had no other systemic disease associated with T.B, not more than 27% of all relapse cases .

3) "Distribution of relapse cases according to residence."

Table (3) shows that, the effect of locality (Rural & Urban) area on the rate of relapse cases. According to this study , we found that (80%) of relapse cases were live in rural areas (70 out of 87), while only 17%(30 cases) of relapse were live in urban areas.

So residence has an important statistical effect on relapsing TB.

4) " Effect of devotion of relapse cases"

Table (4) shows that (57) 65.5% of all relapse cases were devoted, for any reason, from taking their medications, at any time of course of treatment, while only 30 (34.5%) of relapsed cases were not devoted during their course of treatment.

Table 1: Distribution of relapse according to sex.

Sex	Cured	Relapsed	Total
Male	607	57	664
Female	509	30	539
Total	1116	87	1203

Table 2: Distribution of relapsed according to association of T.B with other systemic disease

Sex	Associated dis.	No disease associated	Total
Male	41	16	57
Female	22	8	30
Total	63	24	87

Table 3: Distribution of relapsed according to residences of cases.

Sex	Rural	Urban	Total
Male	47	10	57
Female	23	7	30
Total	70	17	87

Table 4: Distribution of relapses according to continuity of taking treatment.

Sex	Devoted from treatment	Not devoted	Total
Male	37	20	57
Female	20	10	30
Total	57	30	87

Discussion

The emerge of relapse in tuberculosis has been considered as a global problem today (Jacob RF) , (Milchison DA.) .several factors including irregular or improper treatment (Closello at al), Drug resistance among previously treated tuberculoses patients, and other risk factors.

A brief report (Am.Rev. Resp. Dis 1980) have shown the association between relapse of tuberculosis and drug resistance.

We, in this study can summarize the associations between relapse TB & other factors, as follows:

1- Age factor

In this study, the highest rate of relapse was found in the elderly (55-65) years and more. This result may explain the role of the family in continuation of the treatment and the role of health workers in follow up of the cases of tuberculosis under treatment.

2- Sex factor

In spite of little bit higher rate of relapse cases in male, more than in female, but this is of little value statistically, and might be due to more percentage of tuberculosis patients are also males .

3-Residence factor

The current study revealed that the rate of relapse TB is more among rural patients than urban, this might be because of difficulty in reaching PHC, and taking their medications, or might be because of more illiteracy in the rural populations, leading them to stop treatment as they feel better conditions.

4-Association of other diseases, with relapse TB cases

This association is a clear factor in the current study; it is found that there is strong relation and significant statistical effect on the rate of relapse among tuberculoses patients who have another chronic disease like Diabetes Mellitus, Renal failure, CA , chronic Asthma , etc. this might be because the patient who had one of these diseases which considered as serious disease will let him have a little care in continuity of taking his anti-TB drugs, leading to more relapse cases.

5-Devoted patients

There are many patients, who are devoted from taking their anti-TB treatment for any reason, especially those who considered TB as asocial stigma, or those who can't continue treatment for the reasons mentioned before leading to high rate of relapse in the community.

Conclusions

The current study, has given rise the following conclusions

1- Relapse TB is a problem in Diwanyah governorate during the last four years & this phenomenon represent a priority in the duties of primary health centers in the governorate.

2- TB relapse is apparently more in male patients than in female & it is more in elderly patients, especially those in rural areas.

3- The problem is being more when the tuberculoses patient has at the same time another systemic disease like D.M , Renal failure , D.U , CA , ..et.

4- The problem is found in those tuberculoses patients who are not, perfectly take their anti-TB drugs (devoted) patients for any reason.

Recommendations

In the view of the results obtained during this study, thefollowing actions are recommended:

1) It is very important, as a preventive scheme to adapt screening program for early detection of any relapse case, and this is done by monthly meeting with the managers of health districts to encourage them for periodic visits to those who are away from PHC, or those with a history of devotees. Or those who have another systemic disease with TB.
2) All patients who are discovered as a relapse TB, must be informed about their condition & explain its seriousness & should be kept under close observation to avoid any another relapse.
3) Family members & close contacts for those relapse should be informed about this important problem.
4) Because of importance of TB & because Diwanyah is a place of intermediate endemicty, there should be a good program of health education & more information to be displayed on the nature of TB infection, treatment & relapse. Publication the mass-media about the nature of the disease, modes of transmission & dangers of the disease & its relapse

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