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To study the clinical profile of classic FUO

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Abstract

Background: Fever is one of the common presenting symptoms in clinical practice. Most of the time fever is either self-limiting or with a definite underlying etiology. If fever remains persistent and undiagnosed, it is termed as fever of unknown origin (FUO).

Methods: This was a cross sectional study of one year duration and was performed in the Department of Medicine in I.G.M.C. Shimla. Patients above 18 years of age were included in the study.

Results: Splenomegaly was present in 31%, hepatomegaly in 16%, hepatosplenomegaly in 13.2% and lymphadenopathy in 20% of cases. Among them splenomegaly and lymphadenopathy were true PDCs in 20% and 11% of cases respectively

Conclusion: Potentially diagnostic clues were present in the form of headache, cough, chest pain, abdominal pain, vomiting, burning micturition, backache, constitutional symptoms, night sweats, rash and loose motions. Except for pain abdomen and cough, other PDCs were misleading.

Keywords: Symptoms, FUO, PDCs

Introduction

Fever is one of the common presenting symptom in clinical practice. Most of the time fever is either self-limiting or with a definite underlying etiology. If fever remains persistent and undiagnosed, it is termed as fever of unknown origin (FUO). Classically FUO was defined by Petersdorf and Beeson's [1] as a temperature above 38.30C (1010 F) on several occasions over a period of more than 3 weeks, for which no diagnosis has been reached despite 1 week of inpatient investigation. They observed that FUOs were caused by infection in 36% of cases, malignancy in 19%, and collagen vascular disease in 19% and miscellaneous causes in 19%. No cause was detected in 7% of cases. The percentage of undiagnosed "fever of unknown origin" had dropped from over 75 percent in the 1930s to less than 10 percent in the 1950s. Since then, the fraction of FUOs that go undiagnosed has steadily increased, despite the introduction of various serological assays or improved imaging techniques.[2-4]

Material and methods

Design of the study: This was a cross sectional study of one year duration and was performed in the Department of Medicine in I.G.M.C. Shimla.

Inclusion Criteria

Only patients above 18 years of age were included in the study.

Only those patients who fulfill the Durack & Street criteria of classic FUO were included in the study i.e.

- Temperature of > 38.3°C (101°F) on several occasions
- A duration of fever of > 3 weeks and,
- Failure to reach the diagnoses despite 3 days of hospital.

Exclusion Criteria

Patient with neutropenia (absolute neutrophil count<500/ml) patient developing fever 48 hours after hospital admission and human immunodeficiency virus (HIV) positive patients were excluded from study.

Method of study

After initial history taking and thorough physical examination, the patients were subjected to routine investigations. The history taking and investigations are discussed in detail in the proforma.

Investigations

Haematological profile-Hb, TLC, DLC, ESR, Platlet count by sm-9haematological analyser.

Biochemical profile

FBS/RBS, LFT, RFT, Electrolytes was done by KONE LAB 30fully automatic analyser.

Results

Splenomegaly was present in 31%, hepatomegaly in 16%, hepatosplenomegaly in 13.2% and lymphadenopathy in 20% of cases. Among them splenomegaly and lymphadenopathy were true PDCs in 20% and 11% of cases respectively.

Table 1: Clinical manifestations

Clinical manifestation	Male	Female	Total/Freq	True PDC/ False PDC (%)
Headache	4	5	9(20%)	False PDC
Cough	9	5	14(31%)	9%/91%
Chest pain	2	2	4(9%)	False PDC
Pain abdomen	9	7	16(36%)	21%/79%
Vomiting	2	2	4(9%)	False PDC
Burning micturition	2	2	4(9%)	2.2%/97.8%
Backache	1	1	2(45%)	2.2%/97.8%
Constitutionalsymptoms	17	9	26(58%)	11.5%/88.5%
Night sweats	4	2	6(13%)	False PDC
Rash	1	1	2(4%)	False PDC
Loose motion	4	0	4(9%)	False PDC

Table 2: involvement of lymph nodes and organomegaly with FUO

Finding	Male	Female	Total/Freq	Etiology/numberof cases
Lymphadenopathy	6	3	9(20%)	Tuberculosis-5(11%)
Splenomegaly	10	4	14(31%)	Enteric-5(11%) Chloroquine responsive fever-2 Lieshmaniasis-2
Mild splenomegaly	7	2	9	Enteric-4(8.9%)
Moderate splenomegaly	2	1	3	Abscess-2Enteric-1
Massive splenomegaly	1	1	2	Lieshmaniasis-2
Hepatomegaly	4	3	7(16%)	Tuberculosis-3
Hepatosplenomegaly	4	2	6(13.2%)	Tuberculosis-1 Brucellosis-1 Abscess-1 Lieshmaniasis-1

Discussion

Fever is one of the most perplexing clinical signs. It may occur in such diverse conditions as infections, malignancy and drug effect and due to environmental toxicity. Even after intensive search, the etiology of a sizable proportion of fevers remains unclear. Fever of unknown origin (FUO) was defined by Petersdorf and Beeson in 1961.[2] While this definition has stood for more than 30 years, Durack and Street[3] have proposed a new system for classification of FUO which categorizes it into four groups; (1) classic FUO, (2) nosocomial FUO, (3) neutropenic FUO, and (4) FUO associated with HIV infections.

Potentially diagnostic clues (PDCs),[5] defined as all localizing signs, symptoms, and abnormalities potentially pointing towards a possible diagnosis, were present in most of cases in our study. All these PDC's were not true. There were misleading PDC's, which are defined as PDC's not leading to diagnosis. Headache was present in 20% of cases but it was a misleading PDC. Cough was present in 31% of cases and it was a true PDC in 9% of patients. Abdominal pain was present in 36% of cases, and it was a true PDC in 21% of patients. Other PDC's like constitutional symptoms, night sweats, burning micturition, vomiting, loose stools, chest pain and rash were mostly misleading. Splenomegaly was present in 31% of cases and it was true PDC in 20% of patients. Lymphadenopathy was present in 20% of the cases. This was a true PDC in 11% of the cases. So some symptoms like abdominal pain and cough and signs like splenomegaly and lymphadenopathy were useful diagnosticclues. As described in the study of De Klejn et al,[5] PDCs led to the diagnosis in 62% of cases. Wanvarie et al[6] showed that chances of reaching the diagnosis were low when PDC's were absent. In our study presence of true PDC's was helpful in reaching the diagnosis.

Conclusion

Potentially diagnostic clues were present in the form of headache, cough, chest pain, abdominal pain, vomiting, burning micturition, backache, constitutional symptoms, night sweats, rash and loose motions. Except for pain abdomen and cough, other PDCs were misleading.

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