Introduction :

The syndrome of fever of unknown origin (FUO) was defined in 1961 by Petersdorf and Beeson as the following:

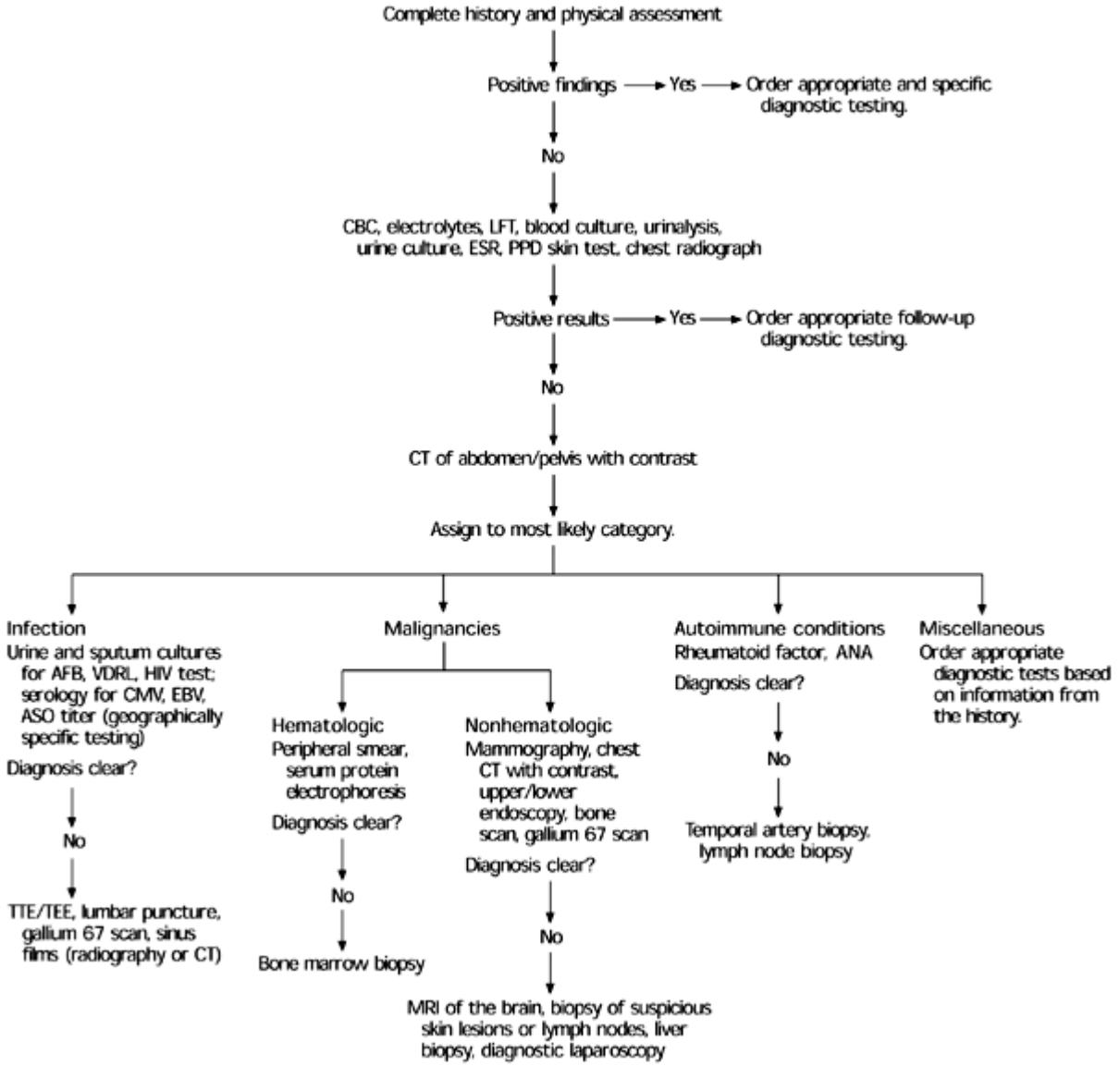
- A temperature greater than 38.3°C (101°F) on several occasions,
- More than 3 weeks' duration of illness, and
- Failure to reach a diagnosis despite one week of inpatient investigation.

Most recently definition has been updated as persistent fever higher than 101°F for three weeks and failure to make a diagnosis with three outpatient visits or three days of inpatient investigation.However, it is important to allow for flexibility in this definition. The emergence of human immunodeficiency virus (HIV) and the expanding use of immunomodulating therapies prompted Durack and Street to propose differentiating FUO into four categories: classical FUO (Petersdorf definition), hospital-acquired FUO, immunocompromised or neutropenic FUO, and HIV-related FUO.

Case Report :

80 years old man, known case of CKD , type 2 DM , hypertension presented with complaints of fever . After initial stabilization, routine investigations were sent. For evaluation of fever cultures including blood C/S & urine C/S were sent. They were nonsuggestive. Further Dengue serology, Malarial test, Typhoid IgG&IgM were also sent which were negative. In due course , patient's renal function deteriorated along with poor mental status. Patient was shifted to MICU and two sessions of hemodialysis were given. CT thorax and CT abdomen reports were also normal. Repeated blood C/S for fever were sterile , there was no evidence of fungal infection.CSF analysis was also normal. In view of unresolving fever, Steroid was given empirically after sending auto-immune profile. Thereafter patient's fever subsided and his general condition improved. Auto- immune profile followed and c-ANCA was positive.

Discussion:



Algorithm for the diagnosis of fever of unknown origin

The emphasis in patients with classic FUO is on continued observation and examination with avoidance of “Shotgun” empirical therapy. If Mantoux test is strongly positive and granulomatous disease is suggested (and sarcoid seems unlikely) then a therapeutic trial for tuberculosis should be undertaken with treatment continued for up to 6 weeks. A failure of the fever to respond over this period suggests other alternative diagnosis. A response of rheumatic fever and still’s disease to aspirin and NSAIDs may be dramatic. The effects of glucocorticoids on temporal arteritis and polymyalgia rheumatica and granulomatous hepatitis are

equally dramatic. The initiation of empirical therapy, doesn't mark the end of the diagnostic work-up, rather it commits the physician to continued thoughtful reexamination and evaluation. Patience, compassion, equanimity, vigilance and intellectual flexibility are indispensable attributes for the clinician in dealing successfully with FUO.

Conclusion:

In India infections notably extra pulmonary tuberculosis is the most common cause of FUO. Noninfectious causes like collagen vascular disease and neoplasms are becoming important differential diagnosis. Thus during investigation that possibility should always be kept in mind. Geographic variations and local infection profiles should always be considered when investigating a case of FUO. However, some of the cases always elude diagnosis, although the patients may respond to empirical therapy.

REFERENCES:

1. Petersdorf RG, Beeson PB. Fever of unexplained origin: report on 100 cases. Medicine (Baltimore). 1961;40:1-30.
2. Harrison's Fever of unknown origin. In: Longo D, Fauci A, Kasper D (Eds). Principles of Internal Medicine, 18th edition.McGraw Hill; 2012.pp.158-64.
3. Druack DT, Streat AC. Fever of unknown origin reexamined and redefined. CurrClin Top Infect Dis. 1991;11:35-51.
4. Tabak F, Mert A, Celik AD, et al. Fever of unknown origin in Turkey. Infection. 2003;31(6):417-20.
5. Gaeta GB, Fusco FM, Nardiello S. Fever of Unknown origin: a systematic review of literature for 1995–2004. Nucl Med Commun. 2006;27(3):205- 11.
6. Mourad O, Palda V, Detsky AS. A comprehensive evidence based approach to FUO. Arch Intern Med. 2003;163(5):545-51.
7. Knockaert DC, Vanneste CJ, Bobloecrs JJ. Fever of unknown origin in elderly patients. J Am Geriatr Soc. 1993;41:1187-92.
8. Knockaert DC, Vanderschueren S, Blockmans D. Fever of unknown origin in adults: 40 years on. J intern Med. 2003;253(3):263-75.
9. Handa R, Singh S, Singh N. Fever of unknown origin: a prospective study. Trop Doct. 1996;26:169-70.
10. Kejariwal D, Sarker N, Chakravarti SK, et al. Pyrexia of unknown origin: a prospective study of 100 cases. J Postgrad Med. 2001;47:104-7.
11. Joshi N, Rajeshwari K, Dubay AP, et al. Clinical spectrum of fever of unknown

origin among Indian children. Ann Trop Pediatr. 2008;28:261- 6.
12. Bandyopadhyay D, Bandyopadyay R, Paul Roy D. The etiological study of fever of unknown origin in patients admitted to medicine ward of a teaching hospital of eastern India. Journal of Global Infections Diseases. 2011; 3(4):329-33.
13. Bleeker Rovers CP, Vos FJ, de Kleijn EM, et al. A prospective multicentre study of FUO: yield of structured diagnostic protocol. Medicine. 2007;86(1):26-38.
14. de Kleijn EM, Vandenbroucke JP, van der Meer JW. Fever of unknown origin (FUO) I. A prospective multi-centric study of 167 patients with FUO, using fixed epidemiologic entry criteria. The Netherlands FUO Study Group.Medicine (Baltimore). 1997;76(6):392-400.
15. de Kleijn EM, van Lier HJ, van der Meer JW, et al. Fever of unknown origin (FUO) II. Diagnostic procedures in a prospective multi-centric study of 167 patients with FUO.Medicine (Baltimore). 1997;76(6):401

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