Original Article

Improper Clinical Diagnosis and Irrational Laboratory

Evaluation of Patients with Improper Clinical Diagnosis and Irrational Laboratory Workup, an Experience of 50 Cases at a Tertiary Care Facility Hyderabad, Sindh

Shamsuddin Solangi[1], Saima Jatoi[1], Adnan Bawany[1] and Hussain Bux Kolachi[2]

ABSTRACT

Objective: To evaluate improper clinical diagnosis and irrational laboratory tests.
Study Design: Observational / cross sectional study
Place and Duration of study: This study was conducted at the Department of Medicine, Isra University Hospital Hyderabad from June 2016 to May 2017.
Materials and Methods: Sample size 50 cases. Informed consent was obtained from all patients enrolled. A proforma was designed and filled for each patient.
Results: In our study gender distribution of the patients in the study population, males 35(70%) and females 15(30%). Mean age of males 43.57 years and of females 34 years, age range from 16 to 85 years. Clinical evaluation of patients was performed by physician. Out of 50 patients, incorrect history and examination in 43 (86%) and correct history and examination in 7 (14%). Lab evaluation of patients with rational and irrational tests was carried out. Out of 50 patients irrational labs were 38 (76%) and rational labs were 12 (24%), out of irrational Widal 17 (34%), Typhidot 13(26%), and Others 8(16%).
Conclusion: This study has identified simple ways of evaluation of patients (proper history, examination and relevant laboratory workup). This can be used as guidelines for medical practitioner to treat the patients in their settings.
Key Words: Assess**,** Patient, Diagnosis, irrational, Tests, Typhoid. Guidelines.

Citation of articles: Solangi S, Jatoi S, Bawany A, Kolachi BH. Evaluation of Patients with Improper Clinical Diagnosis and Irrational Laboratory Workup, an Experience of 50 Cases at a Tertiary Care Facility Hyderabad, Sindh. Med Forum 2017;28(12):81-84.

INTRODUCTION

Recalling back to medical training, it was taught by the teachers that it is important to treat the patient and not the laboratory test. With the advancement of medical technology, it appears that this concept is vanishing. First and foremost is proper history and examination of patient. This study uses an example to highlight the importance of proper clinical evaluation and the management of patient accordingly.

It is very important for all primary care physicians to appreciate that the most important clinical features which can lead to proper assessment and further management of patient. A diagnosis is formed on the basis of various clinical findings, and rational laboratory tests.

[1.] Department of Medicine / Community Medicine[2], Isra University Hyderabad.

Correspondence: Dr. Shamsuddin Solangi, Associate Professor of Medicine, Isra University Hyderabad.
Contact No: 0302-3344693
Email: sksolangi@hotmail.com

Received: August 09, 2017; Accepted: October 16, 2017

Each one of these clinical facts has a certain importance and can establish the diagnosis even when laboratory tests are completely normal [1-4]

At general practitioner level and even at tertiary care facility in developing countries like Pakistan, patients are neither properly clinically assessed nor rational laboratory work up is carried out[6-13,] It is a fact that sometimes we need help from advanced medical technology or health information technology to avoid delayed, missed or incorrect diagnosis which helps to establish diagnosis and in cure of patients.[14-20]

This study has documented 50 cases belonging to Hyderabad Sindh and surrounding rural area. These patients were challenging but almost settled their symptoms by paying attention to their clinical presentation and proper laboratory tests. Isra is University hospital with 600 beds capacity established in1997.

MATERIALS AND METHODS

It is a observational / cross sectional study conducted at Medicine department of Isra University Hospital Hyderabad from June 2016 to May 2017. Sample size 50 cases. A proforma was designed and filled for each patient.

Inclusion Criteria:
1. Age 16 years or above,
2. Willing for participation.

Exclusion Criteria:
1. Age below 16 years,
2. Not willing for participation.

Informed consent was obtained from all patients. Proper clinical (history and examination) assessment was performed and relevant laboratory workup carried out in outpatient medicine clinics.
Data was analyzed on SPSS version 21.

RESULTS

Fig. 1 Pi chart shows gender distribution of the patients in the study population, males 35(70%) and females 15(30%).
Fig 2 Bar chart shows age distribution in the study population, mean age of males 43.57 years and of females 34 years, age range from 16 to 85 years.
Table 1shows clinical presentation of patients, out of total 50 patients with very common presentation were 36 (72%) and of the rare presentation were 2 (4%) the remaining were common and uncommon (7% and 5% respectively).
Table 2 shows clinical (history and examination) evaluation of patients performed by physician. Out of 50 patients, physician found incorrect history and examination in 43 (86%) and physician found correct history and examination in 7 (14%).
Table 3 shows Patients with rational and irrational laboratory tests. Out of 50 patients irrational labs were 38 (76%) and rational labs were 12 (24%), out of irrational Widal 17 (34%), Typhidot 13(26%), and Others 8(16%).
Patients treated in the tertiary care hospital, out of 50, the 15(30%) cases were given treatment from outdoor clinics and the 35 (70%) patients were treated as indoor patients.
Table 4 shows treatment out come with standard (routine) treatment in 20 patents, fully recovered 10 (50%) partially recovered 9 (45%) and no response to treatment 1 (5%).

Table No.1: Clinical presentation of patients (n= 50)

Symptoms	Number of patients	%
Very common	36	72
Common	7	14
Un common	5	10
Rare	2	4

The EMA (the European drug regulatory agency)[5]

Table 5 shows outcome with innovative (interventional) treatment in30 patients of the 24 (80%) recovered fully, 6 (20%) recovered partially and no response in 0 (0%).
It also shows viral hemorrhagic fever 4 out of 50 cases 1(2%) was Crimean – Congo Hemorrhagic fever and 3(6%) were other viruses (2 Dengue +1 unknown).
It also shows communicable and non-communicable disease of the 4(8%) cases were communicable and 46(96%) were non – communicable.

Table No. 2: Clinical (History and Examination) evaluation of patients performedby physicians (n = 50)

Evaluation	Number	%
Physician found Incorrect history and examination	43	86
Physician found Correct history and examination	7	14

Table No.3: Showing patients with rational and irrational laboratory tests (n = 50)

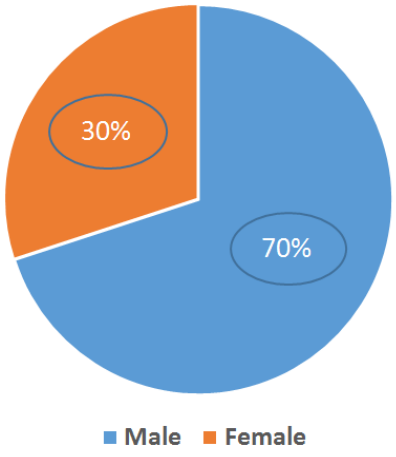
Evaluation	Number	%
Rational Labs	12	24
Irrational Labs:	38	76
Widal	17	34
Typhidot	13	26
Others	8	16

Table No.4: Treatment outcome with standard (routine) treatment (n= 20)

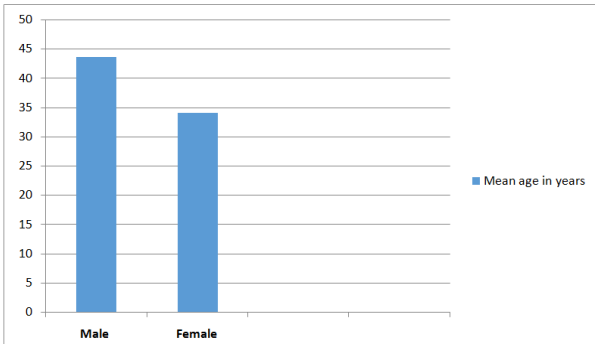
Response	Number	%
Fully recovered (cured)	10	50
Partially recovered (improved)	9	45
No response	1	5

Table No. 5: Treatment outcome with Innovative / Interventional treatment (n= 30)

Response	Number	%
Fully recovered (cured)	24	80
Partially recovered (improved)	6	20
No response	0	0



Pie chart of gender distribution of the study population (n=50)



Bar chart of age distribution of the study population (n=50)

DISCUSSION

In our study common incorrect clinical (History and examination) assessment in majority of patients, as well as irrational laboratory workup. We found incorrect history and examination in 86% patients and correct history and examination in14% patients. Our study found patients with rational and irrational laboratory tests. Out of 50patients irrational laboratory tests were 76% and rational labs were 24%. Among irrational tests Widal 34%, Typhidot 26%, and Others 16%.

In other studies done in Pakistan Karachi, northern Ethiopia, USA, UK, most findings were consistent with our study [4, 7, 8-18] i.e. incorrect clinical assessment and irrational laboratory tests were documented in these studies similar to our study however some studies in Hong Kong and UK showed use of advanced medical technology to establish correct diagnosis to cure the patient. Inconsistent studies were [19, 20]

CONCLUSION

This study has identified simple ways of evaluation of patients (proper history, examination and relevant laboratory workup). This can be used as guidelines for medical practitioner to treat the patients in their settings.

Acknowledgement: We are thankful to Dr. Ashique Ali Arain for his technical support in designing the article. Also thankful to Mutee–ur–Rahman for computer checking.

Author's Contribution:

Concept & Design of Study:	Shamsuddin Solangi
Drafting:	Saima Jatoi
Data Analysis:	Adnan Bawany and Hussain Bux Kolachi
Revisiting Critically:	Adnan Bawany and Hussain Bux Kolachi
Final Approval of version:	Shamsuddin Solangi, Adnan Bawany, Saima Jatoi

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Stephen Paget: Rheumatology: Treat Patients, Not Lab Tests - Medscape - May 28, 2014.
2. Tolouian R, Salameh H. Treat the patient not the lab value**.** Clin Kidney J / Oxford 2010;3(1): 81–83.
3. Whyte G, Stephens N, Senior R, Shave R. Treat the patient not the blood test: The implications of an increase in cardiac troponin after prolonged endurance exercise. Br J Sports Med 2007;41(9): 613–15.
4. Ronald P. Lesser and Mecheri Sundaram (Editorials):Treat the patient, not the test. Neurol 2003;60(4):534-35.
5. How are the words. Very common, Common, uncommon and rare, defined for side effects of drug? The EMA (The European drug regulatory agency) 2016.
6. Camila K Janniger: Herpes zoster misdiagnosed as biliary colic / acute cholecystitis or renal calculi: Medscape updated July20, 2017.
7. Ramzan Ozdemir, Cemal Tuncer, and Aytekin Guven: A case of herpes zoster misdiagnosed and treated as unstable angina pectoris. J Europ Acad Dermatol Venereol 2000;14(4):317-19.
8. Rusnak RA, Fastow JS. Misdiagnosis of acute appendicitis Common features discovered in cases after legitimation. Am J Emerg Med 1994;12(4): 397-402.
9. Wasihun AG, Dejene TA. Diagnosis and Treatment of Typhoid Fever and Associated Prevailing Drug Resistance in Northern Ethiopia. Int J Infect Dis 2015; 35:96-102.
10. Ujjwala N, Rajurkar GM. Diagnostic efficacy of Widal slide agglutination test against Widal tube agglutination test in enteric fever, Int J Med Pub Health 2014;4(3).
11. Altman DG, Bland Diagnostic tests 2: Predictive values. BMJ 1994;309:102.
12. Mahmood K, Sundus A, Ibrahim NF. Typhidot – A blessing or menace. Pak J Med Sci 2015;31(2); 439-43.
13. Evine MM, Orenstein WA. Typhoid fever vaccines In: Plotkin SA, editor. Vaccines. 3rd ed. WB Saunders Co; 1999.p.781-814.
14. House D, Wain J, Ho VA, Diep TS, Chinth NT, Bay PV, et al. Serology of typhoid fever in an area of endemicity and its relevance to diagnosis. J Clin Microbiol 2001;39:1002–1007.
15. Purwaningsih S, Handojo I, Prihatini S, Probohoesodo Y. Diagnostic value of dot – enzyme

– immunoassay test to detect outer membrane protein antigen in sera of patients with typhoid fever. Southeast Asian J Trop Med Public Health 2001;32:507-12.

16. Baker S, Favorov M, Dougan G: Searching for the illusive typhoid diagnosis. BMC Infect Dis 2010; 10(45).
17. Naheed A, Ram PK, Brooks WA, Mintz ED, Hussain MA, Parsons MM, et al. Clinical value of Tubex and Typhidot rapid diagnostic tests for typhoid fever in an urban in Bangladesh. Diagn Microbiol Infect Dis 2008;61(4):381-86.
18. Fadeel MA, House BL, Wasfy MM, Klena JD, Habashy EE, Said MM, et al. Evaluation of a newly developed ELISA against Widal, TUBEX – TF and Typhidot for typhoid fever surveillance. J Infect Dev Ctries 2011;5:169 -75.
19. Tan LTH, Ong KL. The Impact of medical technology on health care today. Hong Kong J Emerg Med 2002;9(4):231–36.
20. Kareh R, Hasan O, Schiff GD. Use of health information technology to reduce diagnostic errors quality safety. Bmj 2013;(Suppl-2).